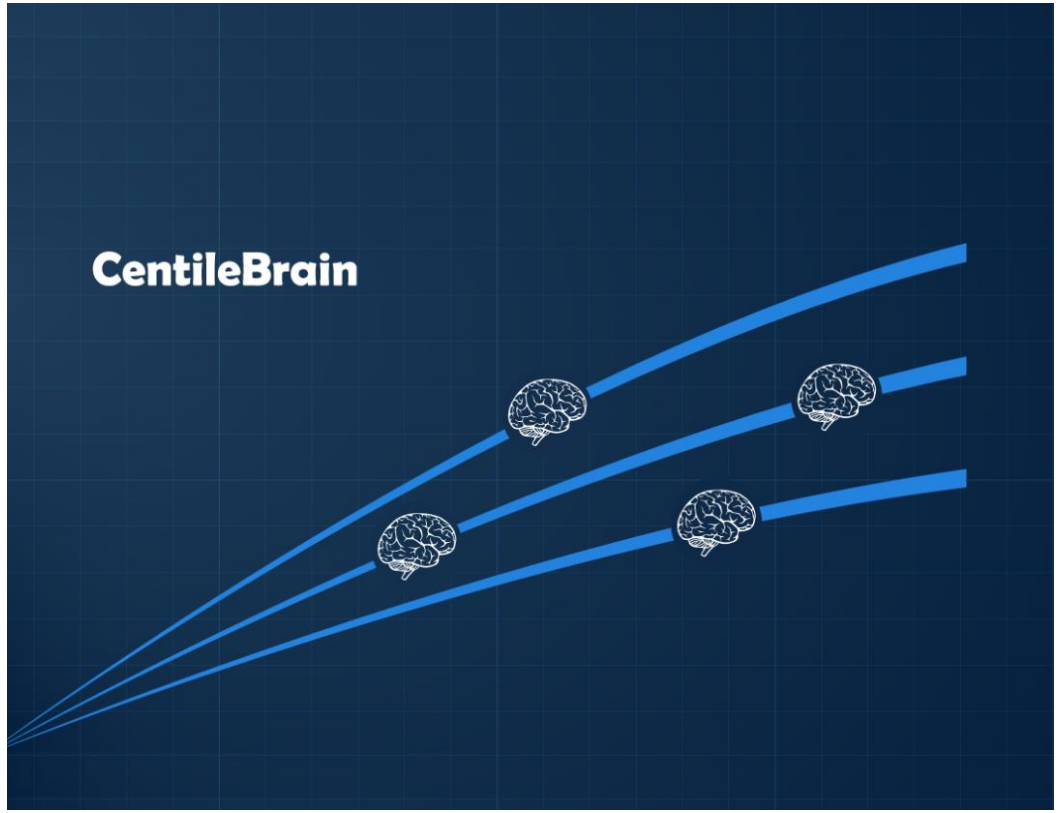
https://centilebrain.org



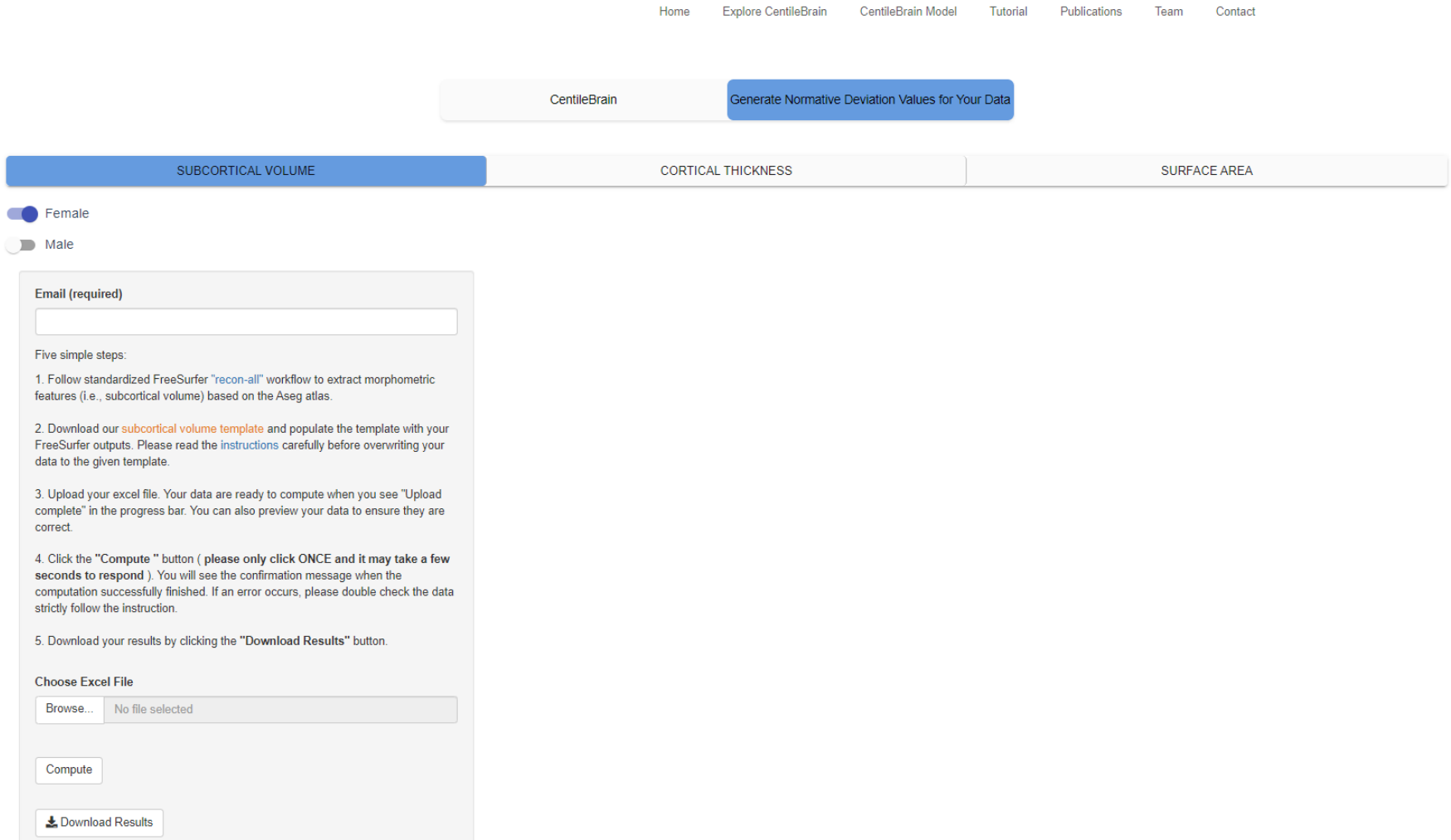
- **CentileBrain uses model parameters developed in the sample of over 40,000 healthy individuals to generate z-scores and centiles for brain regions from any sample. Please see steps 1-5**
- **No personal identifying information of any participant is used, only age, sex and FreeSurfer outputs are required.**
- **The website does not retain a copy of your data or a copy of the outputs of the computation.**
- **The website retains the email of the person submitting the data so that we can contact them in case of problems and is not shared with other parties**
- **For any issues when using this website please email ruiyang.ge@ubc.ca and sophia.frangou@gmail.com**

Step 1. Go to https://centilebrain.org, and click "**CentileBrain Model**" in the menu.

The firewall of some institutions may block this website. If this happens, please either ask your IT administrator to add this website to the safe sites list of your institution or access the website via your home network.

Step 2. “CentileBrainModel” page

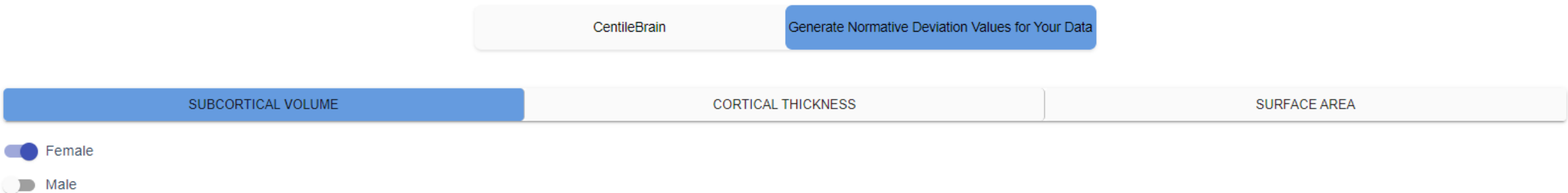
On the “CentileBrainModel” page, click the “**Generate Normative Deviation Values for Your Data**” tab. The default setup is shown below.



Step 3. “Generate Normative Deviation Values for Your Data” page

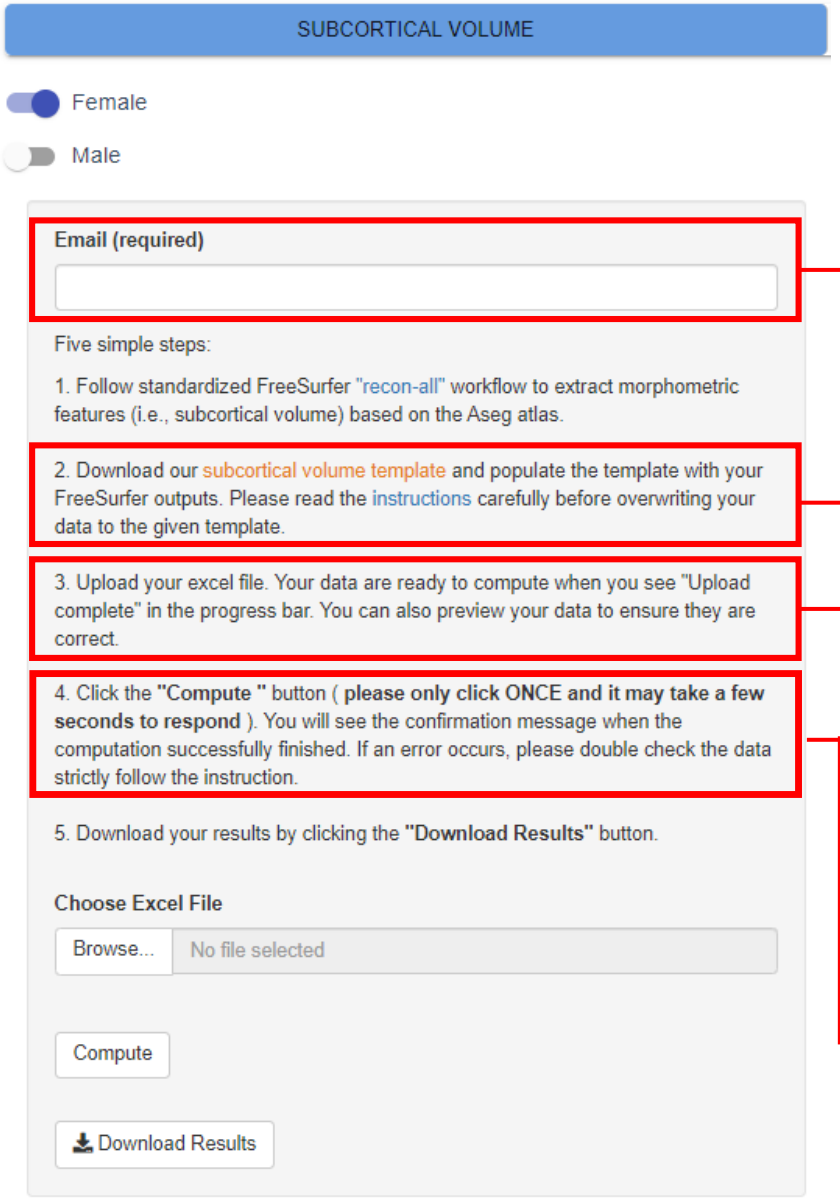
3a. Choose a brain phenotype by clicking the corresponding tab.
In the example below, the “subcortical volume” is chosen, and the chosen tab changed colour from gray to blue. You can choose multiple brain phenotypes but one at a time.

3b. Choose the sex by checking the toggle button. This is important as our models are sex-specific and therefore data from females and males must be submitted separately.
In the example below, the female sex is chosen.



Step 4. “Generate Normative Deviation Values for Your Data” page

Focus on the left panel shown below



4a.Enter your email address.

Our model uses FreeSurfer(version 5.0 or higher) extracted parcellations based on the Desikan-Killianyatlas (cortical thickness and surface area) and Asegatlas (subcortical volume). Please ensure your data are compliant.

4b. Download our xlsx template, and populate it with your data.

It is essential that (a) you click on the “**instructions**” link first to read the full the details of the process; (b) you use the template provided because the algorithms will read the labels in the precise order given in the template.

4c. Upload the template populated with your data.

Choose “**Browse**” to select it from your drive. When the upload is completed, your data will be displayed on the right panel (see next slide).

4d. Click “**Compute**”. This function generates 4 excel files: (1) z-scores; (2) centiles; (3) mean absolute error values; and (4) predicted values.

This is an example of how your data will be displayed after uploading. Please check for errors before clicking "**Compute**".

SUBCORTICAL VOLUME | CORTICAL THICKNESS | SURFACE AREA

Female

Male

Email (required)

John.Smith@uni.edu

Five simple steps:

1. Follow standardized FreeSurfer "recon-all" workflow to extract morphometric features (i.e., subcortical volume) based on the Aseg atlas.

2. Download our subcortical volume template and populate the template with your FreeSurfer outputs. Please read the instructions carefully before overwriting your data to the given template.

3. Upload your excel file. Your data are ready to compute when you see "Upload complete" in the progress bar. You can also preview your data to ensure they are correct.

4. Click the **"Compute "** button (**please only click ONCE and it may take a few seconds to respond**). You will see the confirmation message when the computation successfully finished. If an error occurs, please double check the data strictly follow the instruction.

5. Download your results by clicking the **"Download Results"** button.

Choose Excel File

Browse... template_subcortical_volume_male.xlsx

Upload complete

Compute

Computations done. Please download your results.

Download Results

SITE	SubjectID	Vendor	FreeSurfer_Version	age	sex	ICV	Lthal	Rthal	Lcaud	Rcaud	Lput	Rput	Lpal
UBC1	UBC01	Philips	7.10	10.67	1.00	1301102.93	6524.51	5977.77	3615.74	3757.04	5516.90	5126.20	1100.69
UBC1	UBC02	Philips	7.10	77.49	1.00	1418137.48	7408.34	7000.99	3242.74	3409.46	6423.89	5766.20	1643.97
UBC1	UBC03	Philips	7.10	81.73	1.00	1503788.17	7180.38	6325.52	3478.25	3463.50	5620.30	5414.71	1587.32
UBC1	UBC04	Philips	7.10	86.87	1.00	1580738.48	6766.61	6967.25	3811.69	4462.70	6610.47	6424.84	1973.24
UBC1	UBC05	Philips	7.10	8.44	1.00	1412551.19	7180.64	5781.03	3926.71	4039.48	4846.02	5461.73	1383.39
UBC2	UBC06	GE	6.00	48.93	1.00	1412299.63	5978.72	5371.51	3197.63	3331.13	4348.72	4408.40	1077.18
UBC2	UBC07	GE	6.00	33.77	1.00	1311703.00	6585.15	6254.39	2925.95	3168.23	5289.54	4989.84	1406.98
UBC2	UBC08	GE	6.00	36.92	1.00	1384298.78	6602.67	6479.49	3409.72	3735.96	5811.74	5551.68	1618.64
UBC2	UBC09	GE	6.00	11.12	1.00	1389815.67	6078.30	5924.85	3183.67	3475.82	4862.59	4691.10	1419.99
UBC2	UBC10	GE	6.00	78.03	1.00	1688317.97	7310.15	6906.79	3260.43	3557.36	5070.86	4969.80	1482.62
ISMMS	ISMMS01	Siemens	5.30	43.02	1.00	1630731.13	7157.22	7403.57	3293.66	3323.15	6052.97	6088.54	1752.22
ISMMS	ISMMS02	Siemens	5.30	18.48	1.00	1626746.40	7284.73	7387.09	3708.29	3739.52	5528.17	5451.84	1828.56
ISMMS	ISMMS03	Siemens	5.30	43.89	1.00	1626188.79	7548.43	7725.39	4528.89	4599.15	6652.37	6380.86	1901.42
ISMMS	ISMMS04	Siemens	5.30	11.11	1.00	1624102.08	5574.15	5627.93	2957.96	3036.90	4170.64	3921.68	1404.38
ISMMS	ISMMS05	Siemens	5.30	25.81	1.00	1623034.16	6881.37	7002.82	4178.44	4215.74	6068.59	6010.47	2018.53
UBC1	UBC01	Philips	7.10	10.67	1.00	1301102.93	6524.51	5977.77	3615.74	3757.04	5516.90	5126.20	1100.69
UBC1	UBC02	Philips	7.10	77.49	1.00	1418137.48	7408.34	7000.99	3242.74	3409.46	6423.89	5766.20	1643.97
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UBC2	UBC08	GE	6.00	36.92	1.00	1384298.78	6602.67	6479.49	3409.72	3735.96	5811.74	5551.68	1618.64

Results can be downloaded by clicking the “**Download Results**” button.