

Catching Up With **TIME**

An interview with Yossele Algorithm Shoinkufitzky

by Rabbi Avraham Weissman

As a writer for Hamodia, I am used to getting all kinds of interesting emails. But when a message arrived in my inbox that began with the following sentences, it piqued my interest.

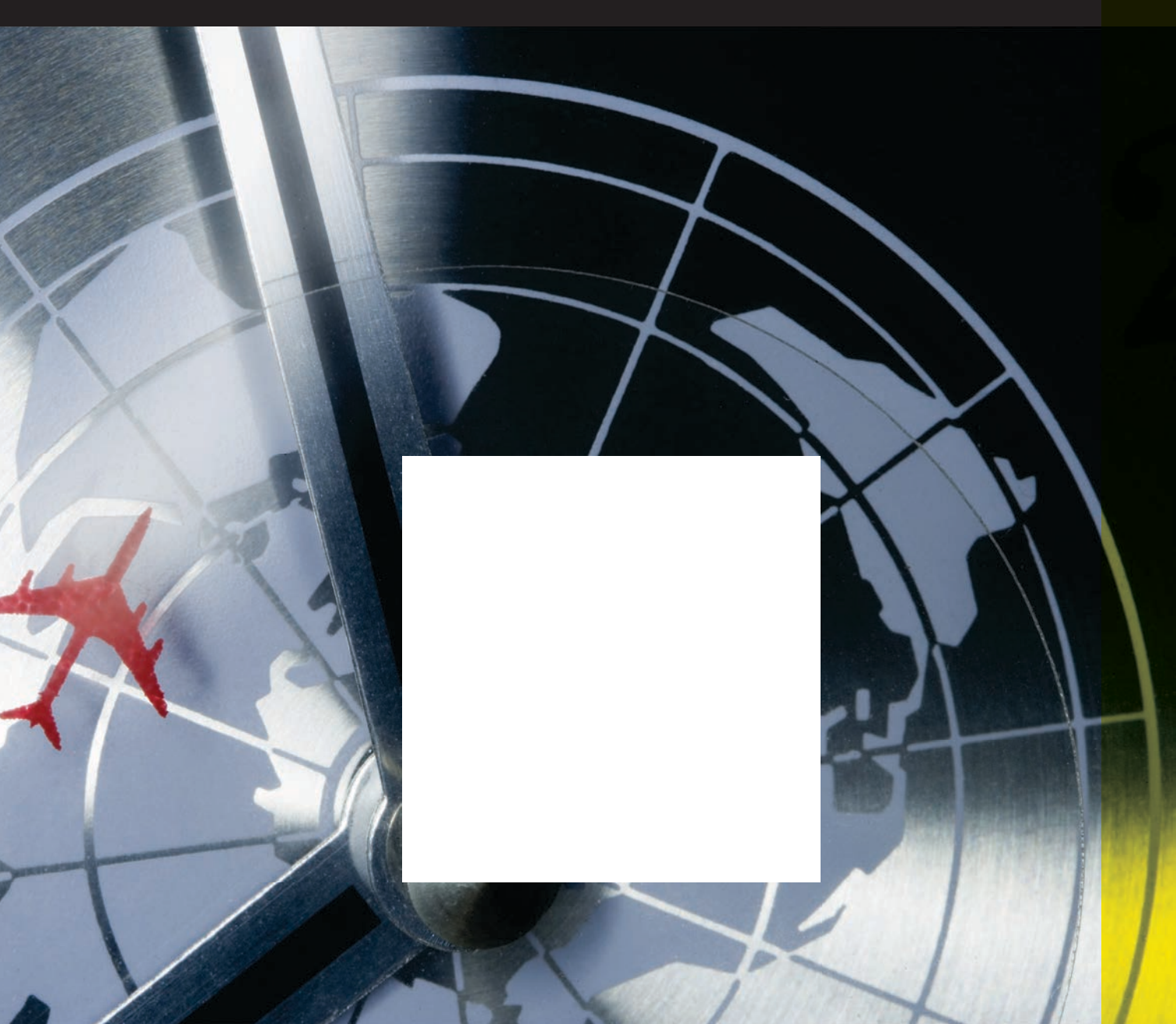
"I'm only 15 years old and we've never met — but I know you. How? Because I run for you.

In fact, on a typical day I run about 780,000 times.

If you're thinking, 'This is just weird; I dunno WHAT the guy is talking about,' I get it. But hear me out, cuz I'm one of the gang (the tzitzis-wearing, siddur-toting gang). The name's Algje. (Full name is Yossele Algorithm Shoinkufitzky, but only my great-uncle calls me that.)"

As it turned out, it was a fundraising email from the formula that powers MyZmanim. It took many months of email exchanges (it turns out that he is super-busy) before Hamodia was finally able to catch Yossele — the talking algorithm — and get an exclusive interview.





What is an algorithm?

An algorithm is the process by which a computer calculates something. As a *zmanim* algorithm, my job is to take the steps necessary to calculate *zmanim*, times for a given location.

How do the people at MyZmanim make sure you're behaving?

The people at MyZmanim don't just assume I'm doing my job. They have erected a network of specialized cameras throughout the world which they use to closely observe the sun. As long as my times match what they see, they know I'm performing well.

How old are you?

In March I'll be 21.

How many locations around the world can you

process?

5,031,411 locations ... and counting.

How did you get the name "Yossel"?

I'm named after the man who would sponsor the publication of candle lighting times on the front page of each week's *New York Times*, about 25 years ago.

What are the most used *zmanim*?

Shabbos start/end times and daily *shkiah*.

What time of the year are you the busiest?

Before Rosh Hashanah *tens of thousands* of printable calendars are generated in a short time span. Each time a calendar is generated I have to run *hundreds* of times. My head is spinning like crazy.

What inspired the person who built you to start this



Zmanim approximations for
JFK → TLV (Eastbound) flights
departing on Thursday, October 10, 2019
myzmanim.com™

From: (JFK) New York, United States
To: (TLV) Tel-Aviv, Israel
Direction: Eastbound
Distance: 5661 miles / 9111 km
All times are in New York time.
Daylight saving time



Use this tile if TAKEOFF was between 1:50pm and 2:00pm	Use this tile if TAKEOFF was between 2:00pm and 2:10pm	Use this tile if TAKEOFF was between 2:10pm and 2:20pm	Use this tile if TAKEOFF was between 2:20pm and 2:30pm	Use this tile if TAKEOFF was between 2:30pm and 2:40pm
Plag HaMincha Thu: 3:28pm - 4:07pm Sunset Thu: 4:04pm - 4:42pm Nightfall Thu: 4:28pm - 5:08pm Midnight Thu: 7:20pm - 7:59pm Dawn Thu: 10:26pm - 11:00pm Earliest Talis Thu: 10:42pm - 11:16pm Sunrise Thu: 11:30pm - 11:53pm LANDING Thu: 10:54pm - 12:07am	Plag HaMincha Thu: 3:33pm - 4:12pm Sunset Thu: 4:09pm - 4:47pm Nightfall Thu: 4:33pm - 5:13pm Midnight Thu: 7:24pm - 8:03pm Dawn Thu: 10:29pm - 11:03pm Earliest Talis Thu: 10:45pm - 11:20pm Sunrise Thu: 11:30pm - 11:56pm LANDING Thu: 11:04pm - 12:17am	Plag HaMincha Thu: 3:38pm - 4:16pm Sunset Thu: 4:14pm - 4:52pm Nightfall Thu: 4:38pm - 5:18pm Midnight Thu: 7:29pm - 8:08pm Dawn Thu: 10:32pm - 11:06pm Earliest Talis Thu: 10:48pm - 11:23pm Sunrise Thu: 11:30pm - 11:59pm LANDING Thu: 11:14pm - 12:27am	Plag HaMincha Thu: 3:43pm - 4:21pm Sunset Thu: 4:19pm - 4:57pm Nightfall Thu: 4:43pm - 5:23pm Midnight Thu: 7:33pm - 8:13pm Dawn Thu: 10:35pm - 11:09pm Earliest Talis Thu: 10:51pm - 11:26pm Sunrise Thu: 11:30pm - 12:02am LANDING Thu: 11:24pm - 12:37am	Plag HaMincha Thu: 3:48pm - 4:25pm Sunset Thu: 4:24pm - 5:02pm Nightfall Thu: 4:48pm - 5:27pm Midnight Thu: 7:38pm - 8:18pm Dawn Thu: 10:38pm - 11:12pm Earliest Talis Thu: 10:54pm - 11:29pm Sunrise Thu: 11:30pm - 12:05am LANDING Thu: 11:34pm - 12:47am
Use this tile if TAKEOFF was between 2:40pm and 2:50pm	Use this tile if TAKEOFF was between 2:50pm and 3:00pm	Use this tile if TAKEOFF was between 3:00pm and 3:10pm	Use this tile if TAKEOFF was between 3:10pm and 3:20pm	Use this tile if TAKEOFF was between 3:20pm and 3:30pm
Plag HaMincha Thu: 3:53pm - 4:30pm Sunset Thu: 4:29pm - 5:07pm Nightfall Thu: 4:53pm - 5:32pm Midnight Thu: 7:42pm - 8:23pm Dawn Thu: 10:41pm - 11:16pm Earliest Talis Thu: 10:57pm - 11:32pm Sunrise Thu: 11:33pm - 12:08am LANDING Thu: 11:44pm - 12:57am	Plag HaMincha Thu: 3:57pm - 4:34pm Sunset Thu: 4:33pm - 5:12pm Nightfall Thu: 4:57pm - 5:37pm Midnight Thu: 7:47pm - 8:29pm Dawn Thu: 10:44pm - 11:19pm Earliest Talis Thu: 11:00pm - 11:35pm Sunrise Thu: 11:36pm - 12:12am LANDING Thu: 11:54pm - 1:07am	Plag HaMincha Thu: 4:02pm - 4:38pm Sunset Thu: 4:38pm - 5:17pm Nightfall Thu: 5:02pm - 5:42pm Midnight Thu: 7:52pm - 8:34pm Dawn Thu: 10:47pm - 11:22pm Earliest Talis Thu: 11:03pm - 11:39pm Sunrise Thu: 11:39pm - 12:15am LANDING Fri: 12:04am - 1:17am	Plag HaMincha Thu: 4:07pm - 4:43pm Sunset Thu: 4:43pm - 5:21pm Nightfall Thu: 5:07pm - 5:47pm Midnight Thu: 7:55pm - 8:39pm Dawn Thu: 10:50pm - 11:25pm Earliest Talis Thu: 11:06pm - 11:42pm Sunrise Thu: 11:42pm - 12:19am LANDING Fri: 12:14am - 1:27am	Plag HaMincha Thu: 4:12pm - 4:47pm Sunset Thu: 4:48pm - 5:26pm Nightfall Thu: 5:11pm - 5:52pm Midnight Thu: 8:00pm - 8:44pm Dawn Thu: 10:53pm - 11:28pm Earliest Talis Thu: 11:10pm - 11:45pm Sunrise Thu: 11:46pm - 12:22am LANDING Fri: 12:24am - 1:37am

remarkable organization?

As a teenager he attended a fascinating summer learning-group *shiur* given by Rabbi Yair Hoffman on the topic of the mechanics of the Jewish calendar. After the *shiur* he asked Rabbi Hoffman if there was a way – based on the rules he had taught – to convert dates between the secular and Jewish calendars. Rabbi Hoffman gladly sat with him, and together they worked it out. He then wrote a Windows application to handle this task automatically. Recognizing that there was a need for instant *zmanim* information, my developer set out to extend me so I could support *zmanim* information. Four years later, when the internet started becoming popular, he converted me into a website and MyZmanim was founded.

The person who built me regards it as a huge privilege to be able to serve the *tzibbur*. This passion has motivated him to continue maintaining and expanding MyZmanim throughout the years.

Tzeis Hakochavim – a Quick Rundown

The appearance of three stars is the primary way in which the *Gemara* teaches us to identify nightfall. (The *Gemara* also states that nightfall occurs as early as 3/4 of a *Mil* after sunset, however, common practice in most communities is to be stringent and wait at least until three stars can be seen.)

Have you ever wondered why the stars come out only at night? The truth is that the stars are always “out,” only we can’t see them during the day because the light from the sun overpowers the dim light from the stars. As the day draws to a close, the light from the sun becomes weaker and eventually the light from the stars overpowers the fading light from the sun.

Hence, *tzeis hakochavim* – the appearance of the stars – occurs when a certain degree of darkness is present.

In astronomy, degrees of darkness are measured in terms of the sun’s position beneath the horizon. The further the sun sinks below the horizon, the darker it gets.

Harav Yechiel Michel Tucazinsky, *zt”l*, was able to see three *kochavim* when the sun reaches 6.5 degrees and he was

able to see three *kochavim ketanim* when the sun reaches 8.5 degrees. The figure of 8.5 degrees is also very close to the figure given by Harav Moshe Feinstein, *zt”l*, for *zman* Motzoei Shabbos.

Throughout the years, many Rabbanim have observed the night sky and have recorded how many minutes past *shkiah* it took for stars to appear.

We’d love to hear how many minutes it takes for *you* to see the stars!

What *shittah* do you list and why?

We never tell people which *zman* they should follow. Our goal is to provide every *kehillah* with *zmanim* that are in accordance with its own *minhagim*.

How can users access the information you calculate?

By calling:

(USA: 516-796-2646 • CAN: 514-667-7164 •
UK: 020-3006-3117 • IL: 02-6509626)

By texting :

(USA: 516-261-6262 • CAN: 514-613-5588 •
UK: 07533-019887 • IL: 052-5230626)

By visiting the website **www.myzmanim.com**.

By browsing the mobile web site:

http://m.myzmanim.com/

By subscribing to daily *zmanim* alerts.

By printing the PDF calendar:

http://cal.myzmanim.com/

By ordering *zmanim* spreadsheets:

http://sheets.myzmanim.com/

You also have a special service for those traveling by airplane. How do you figure out the *zmanim* for a specific flight?

I calculate in-flight *zmanim* based on actual flightpaths collected from previous flights. It’s a little complicated, but I’ll give you the abridged version.

Most commercial aircraft broadcast their location periodically while flying. These signals allow the aircraft to be tracked by air traffic control and by other aircraft in the

region. The people at MyZmanim have erected specialized antennae in strategic locations to intercept the signals, track the aircraft, and store their routes in a database.

Whenever a MyZmanim user enters a flight code, I search the database and instantly generate a list of previous flight paths for the given flight. I then build statistics based on those flightpaths, which in turn enable me to accurately project when the *zmanim* will be on the next flight.

There are some flights in which it never gets dark. Why is that so and what happens to *Maariv* and evening *Shema*?

At the Arctic Circle, the sun does not set all summer long. Sometimes a flight will enter the Arctic Circle before *shkiah* and exit the Arctic Circle after *netz hachamah* the next morning. When this happens, passengers undergo a transition of date, without experiencing any nighttime. It is worthwhile to avoid taking flights like this. If you must be on such a flight, contact your local Orthodox Rabbi for guidance.

Also, on westbound flights, the aircraft moves together with the sun. This can give passengers the impression that the clock is running slowly or not moving at all. In some instances, the flight takes off at 5 p.m., and the time remains 5 p.m. (relative to the sun) for the entire duration of the flight, even though the flight lands at 5 p.m. the following day. When this happens one does not *daven Maariv* or recite evening *Shema* in-flight.

How is this venture funded?

We don't have any big supporters. This venture is funded entirely by donations from appreciative users. Contributions enable us to cover the costs of technology, ongoing tweaking and constant upgrades which are essential to maintaining an organization of this magnitude. ■