



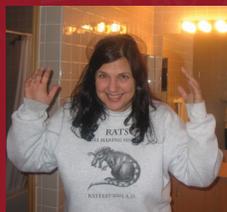
庚子年

2020 : Year of the Rat



2020
RAT GENOME DATABASE CALENDAR

Our friend, Joanne Bella Hodges



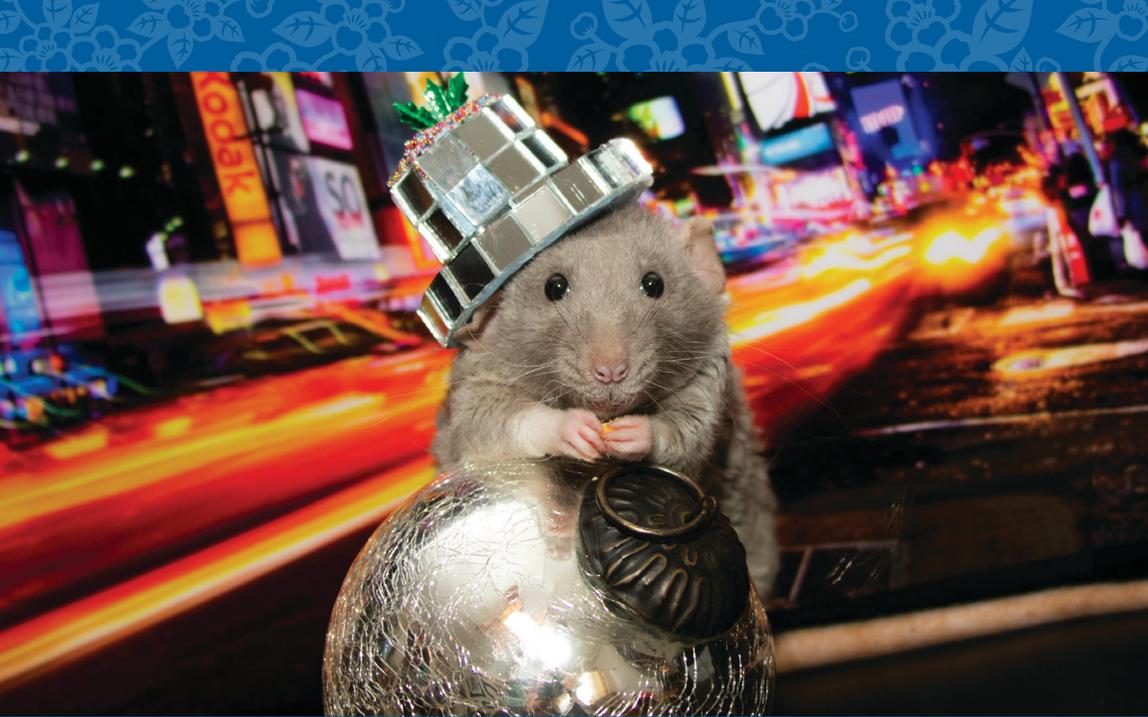
This calendar is dedicated to the rat research community worldwide. Thank you for your continued support and encouragement!

This calendar is also dedicated to our friend, the late Joanne Bella Hodges. Bella loved rats, enjoyed breeding them and interacting with them, and was always intrigued by the genetics behind the phenotypes she observed. Bella was a scientist at heart, a talented artist, a warm and generous friend, and a mentor to other rat owners. From her first photo in the 2011 Rat Calendar, Bella was a regular submitter to the calendar and a good friend to RGD. Her whimsical spirit, generosity and enthusiasm are greatly missed!



Photos on this page were taken by Bella's friends and colleagues and were generously compiled and submitted by Drusilla Kehl. Top: photographers for collage pictures, clockwise from left: Val Tiley, Laury Breidenthal, Steph Stouffer, Laury Breidenthal, Drusilla Kehl, and Steph Stouffer. Bottom: Mary S., Bella and Jennifer during Bella's visit to RGD in 2016.

WITH APPRECIATION, THE RGD TEAM



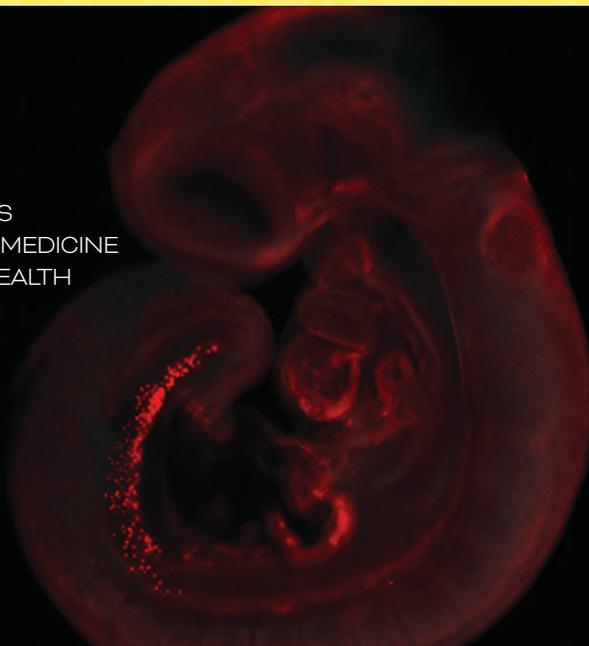
JANUARY 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Augie, a Russian Blue Silvermane Dumbo Rex, celebrates the New Year. Photo courtesy of Sarah Hunt, MartyMouseHouse.com.

<https://www.martymousehouse.com>

PERSPICACIOUSNESS
GENOMES GUIDING MEDICINE
IMPROVE HUMAN HEALTH



FEBRUARY 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						1
2	3	4	5	6	7	8
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16	17	18	19	20	21	22
23	24	25	26	27	28	29

Wholemount immunostaining of Crj:WI rat embryo at embryonic day 10.5. Tfp2c-positive cells (Red) at lower body are primordial germ cells, the founder cells of sperm and eggs, migrating toward gonads. Nuclei are counterstained with DAPI (White). Photo courtesy of Dr. Toshihiro Kobayashi and Dr. Masumi Hirabayashi, Section of Mammalian Transgenesis, Center for Genetic Analysis of Behavior, National Institute for Physiological Sciences, Okazaki, Aichi, Japan.

<http://www.nips.ac.jp/mamtg>

Original haiku by Mary Kaldunski, Rat Genome Database,
Medical College of Wisconsin, Milwaukee, WI, USA.
<https://rgd.mcw.edu>



MARCH 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Marten rats. Top left: four males, two whiteside, two solid. Top right: top view of a whiteside male Marten rat. Bottom left: side view of a male whiteside Marten rat showing the dark "pants" on the hind legs which distinguish whitesides from hooded rats. Bottom right: front view of a whiteside Marten male. Rats bred by and photos courtesy of Concepcion Perez, University of California, Berkeley, CA, USA.



APRIL 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
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26	27	28	29	30		

Top left and bottom center: 14-week-old RCS-*rdy*^{p+/+}/LavRrrc congenic rat (RRRC# 0316, RGD:1358278, used for retinal research). Top center and bottom left: three-week-old RCS/LavRrrc inbred rats (RRRC# 0314, RGD:1358258, used for retinal research). Right: four- to six-week-old ZUC-*Lep*^{fl}.BN-(D1Rat183-D1Rat90)/Ste congenic rat (RRRC#: 0837, RGD:14695034, used to study obesity, type 2 diabetes, renal disease). Information about these rats is available at RGD and RRRC, and all of these strains are available from the RRRC. Photos courtesy of Alexandra DeWitt, Rat Resource & Research Center, University of Missouri, Columbia, MO, USA.

<http://www.rrrc.us>



MAY 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

Top left: a Russian Blue Silvermane Harley. The Harley is a long-haired rat. Top right: a chocolate-capped blazed Harley. Bottom: a mink masked dwarf doe with litter. Rats bred by and photos courtesy of Nicole Kroha, Riffraff Rex Rattery, Milwaukee, WI, USA.

<https://www.facebook.com/rrrrattery>



JUNE 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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28	29	30				

Pearl, a four-month-old beige-capped and blazed doe, and Primrose, a four-month-old agouti hooded doe. Rats raised by and photo courtesy of Shelbie Lebbin.

See Pearl and Primrose on Instagram at [crazy_rat_lady6](https://www.instagram.com/crazy_rat_lady6).



JULY 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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Albino Kwl:Wistar rats prepare for the 2020 Olympic games in Tokyo. Top photos: The grueling climbing wall challenge. Bottom left and right: Sprint to the goal! Bottom center: Is this the ball for the soccer game? Center: Practice for the podium! Photography by Mr. Takao Nakagawa, Kiwa Laboratory Animals Co., Ltd. Wakayama, Japan. Photos submitted by Dr. Masayuki Anzai, Institute of Advanced Technology, Kindai University, Kainan City, Wakayama, Japan.

<http://www.kwl-a.co.jp>
<https://www.kindai.ac.jp/bost/about/advanced-technology>



AUGUST 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						1
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30	31					

August 2nd is National Friendship Day and the rats are happy to have their friend Leia, the chinchilla, in the Year of the Rat calendar for August. (Don't forget – RGD has data for chinchilla, too!) Chinchilla raised and photo courtesy of Rhonda Geoffrey, Medical College of Wisconsin, Milwaukee, WI, USA.

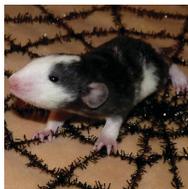


SEPTEMBER 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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27	28	29	30			

Top and bottom left: Anubis, a wild-born *Rattus rattus* from Chatsworth, CA. Top right: Jake (*R. norvegicus*) with a much younger Oliver, also *R. norvegicus*, from an adopted litter from the Orange County Shelter. Bottom right: Rigel (*R. norvegicus*) grooming herself atop a stack of books about rats. Photos courtesy of Dr. Kevin R. Grazier.

<http://www.imdb.com/name/nm0337207>



OCTOBER 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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25	26	27	28	29	30	31

Bella loved Halloween so we have chosen a selection of her Halloween submissions for October. Top, left to right: D'Vito, a 24-month-old male Russian Blue Dumbo Rex (2015); Hallo, a three-week-old black recessive blazed, heterozygous Rex, Dumbo pup navigates a spider's web (2013); Four-week-old Russian Blue Dumbo pup (2019). Bottom, left to right: Jetta, a Russian Blue Dumbo female with recessive blazing, and her bony friend (2018); Jenzen perches (unhappily) on a witch's hand (2015); Joell, a Russian Blue Dumbo, peeks out from a haunted house (2017). All rats bred by and photos courtesy of Joanne Bella Hodges.



NOVEMBER 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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22	23	24	25	26	27	28
29	30					

Bean, a Burmese variegated Dumbo, is hiding from Mondays in his favorite sock! Photo courtesy of Sarah Hunt, MartyMouseHouse.com.

<https://www.martymousehouse.com>



DECEMBER 2020

Sun	Mon	Tues	Wed	Thur	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

"Three Christmas Rats". Original painting in watercolors by Drusilla Kehl, The Illustrated Rat. Used with permission of the artist.

<https://www.theillustratedrat.com>

Principal Investigator

- Mary Shimoyama, PhD

Co-Investigators

- Mindy Dwinell, PhD
- Anne Kwitek, PhD

Project Manager

- Jennifer Smith, MSc

Research Scientists and Curators

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- Matt Hoffman, BSc
- Mary Kaldunski, BSc
- Stan Laulederkind, PhD
- Monika Tutaj, PhD
- Shur-Jen Wang, PhD

Bioinformatics Manager

- Jeff De Pons, BSc

Developers

- Marek Tutaj, MSc
- Jyothi Thota, MSc
- Harika Nalabolu, MSc
- Santoshi Ellanki, MSc

PhD Candidate

- Gagatay Dursun, MSc

Database Administrator

- Stacy Zacher, MSc



The RGD team: Back row, left to right: Matt, Marek, Mindy, Anne, Monika, Jennifer, Shur-Jen, Jeff, Stan. Front row, left to right: Jyothi, Santoshi, Mary S, Gagatay, Mary K. Not pictured: Harika, Stacy, Tom. Photo courtesy of Stacy Zacher.

**Please continue to support
RGD by visiting our website at
<https://rgd.mcw.edu>.**

Calendar printing: Heritage Printing, Brookfield, WI. <https://www.clickheritage.com>

Calendar design: Phil Friso, Cultivate Communications, Brookfield, WI. <https://www.cultivate-communications.com>

Cover Collage

Left column, top to bottom

"Dishwasher", Minka tries to help with the dishes. Photo courtesy of Joanne Bella Hodges, 2013 RGD Rat Calendar.

"Jake in a Popcorn Tub", white rat purchased from PetSmart on Christmas Eve. Photo courtesy of Dr. Kevin R. Grazier.

Center

Chinese zodiac rat sculpture for the Year of the Rat at the China Lights exhibit, Boerner Botanical Gardens, Hales Corners, WI, USA. Photography by Megan Kaldunski. Photo submitted by Mary Kaldunski, Rat Genome Database, Medical College of Wisconsin, Milwaukee, WI, USA. <http://www.chinalights.org>

Right column, top to bottom

Patchwork rat. The patchwork phenotype is thought to date back to the "travelling wave" allele, but is known to not be linked to rex. Rat bred by and photo courtesy of Nicole Kroha, Riffraff Rex Rattery, Milwaukee, WI, USA.

Albino Kwl:Wistar rats prepare for the 2020 Olympic games in Tokyo.

Photography by Mr. Takao Nakagawa, Kiwa Laboratory Animals Co., Ltd.

Wakayama, Japan. Photos submitted by Dr. Masayuki Anzai, Institute of Advanced Technology, Kindai University, Kainan City, Wakayama, Japan.



"Packer Fan Anubis". Original artwork created digitally in Photoshop by Drusilla Kehl, The Illustrated Rat. Used with permission of the artist.

<https://www.theillustratedrat.com>