# XeonPhi_logging

*SP©Nucleomics Core*

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## Test assembly results

A >6h assembly job was submitted to the thinkmate from IrysView and data collected at 30sec intervals on the Thinkmate server using a custom bash script and the basic command:

micsmc -c ${mic} -t ${mic} -f ${mic} | egrep “Device Utilization:|Cpu Temp:|Memory Temp:|Total Power:”

## Xeon cards metrics during mapping

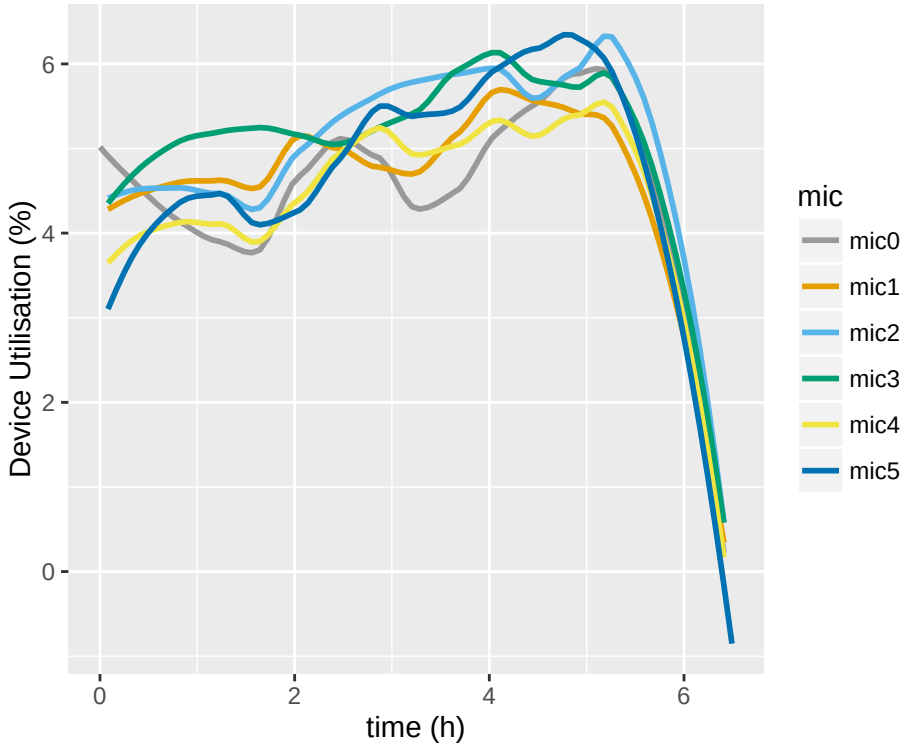
Because sampling leads to a lot of data scattering, smoothing was applied to only retain the average values over time. Each factor was used separately to build a plot for all 6 Xeon cards.

```
# move where the data is
path <-normalizePath("~/Downloads")
#opts_knit$set(root.dir = path)
setwd(path)

# read log data in R
log <- read.delim("Xeon_usage_1457972602.log", sep = "\t", dec = ".",
                  header=FALSE, comment.char = "#", stringsAsFactors=FALSE)

colnames(log) <- c("X.time","mic","cpu.pc","cpuT","memT","totW" )

# add column with spent time in hours
log$time <- (log$X.time-1457972602)/3600

# keep only first 6.5h
log <- subset(log, time<6.5)

head(log)
```

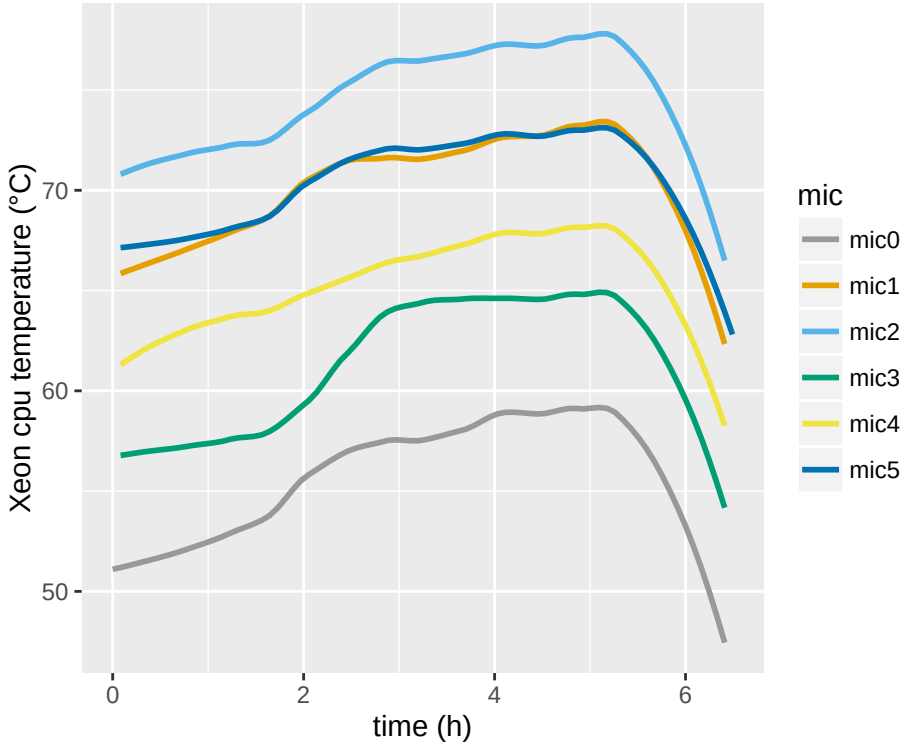
```
##       X.time  mic cpu.pc cpuT memT totW         time
## 1 1457972602 mic0      0   47   36  103 0.0000000000
## 2 1457972603 mic1      0   61   47  108 0.0002777778
## 3 1457972604 mic2      0   66   52  125 0.0005555556
## 4 1457972605 mic3      0   52   38  108 0.0008333333
## 5 1457972606 mic4      0   56   41  107 0.0011111111
## 6 1457972607 mic5      0   62   46  105 0.0013888889
```

```
# define a color-blind friendly palette
cbPalette <- c("#999999", "#E69F00", "#56B4E9", "#009E73",
               "#F0E442", "#0072B2", "#D55E00", "#CC79A7")

# plot cpu%
ggplot(log, aes(x=time, y=cpu.pc, color=mic, group=mic)) +
  stat_smooth(size=1, method="loess", level=0.95, fullrange=TRUE, se=FALSE, span = 0.5) +
```

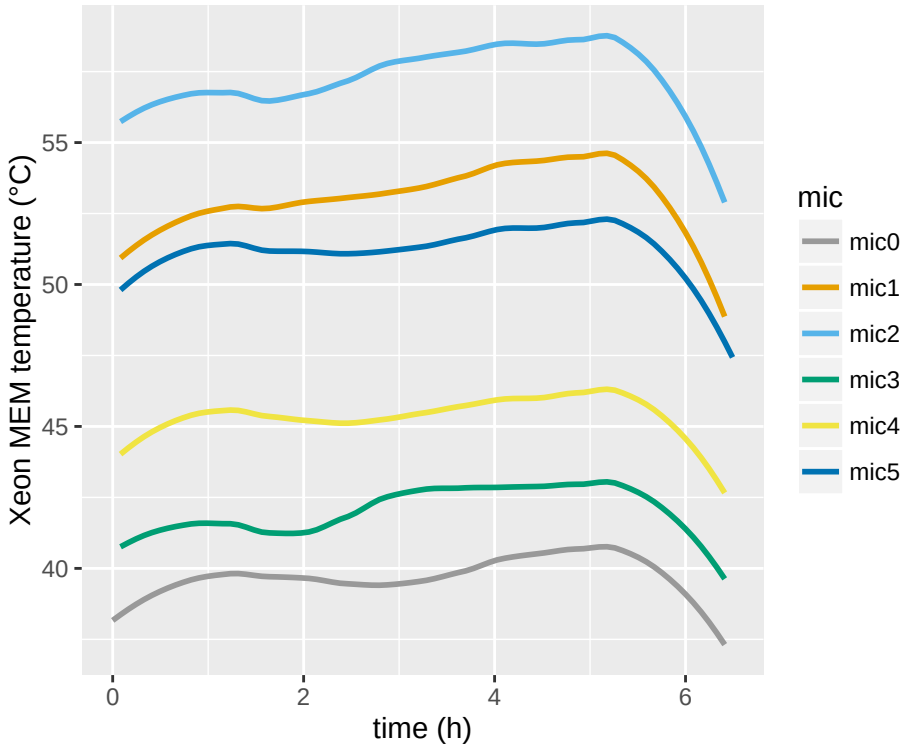
```
  ylab("Device Utilisation (%)") + xlab("time (h)") +
  scale_colour_manual(values=cbPalette)
```



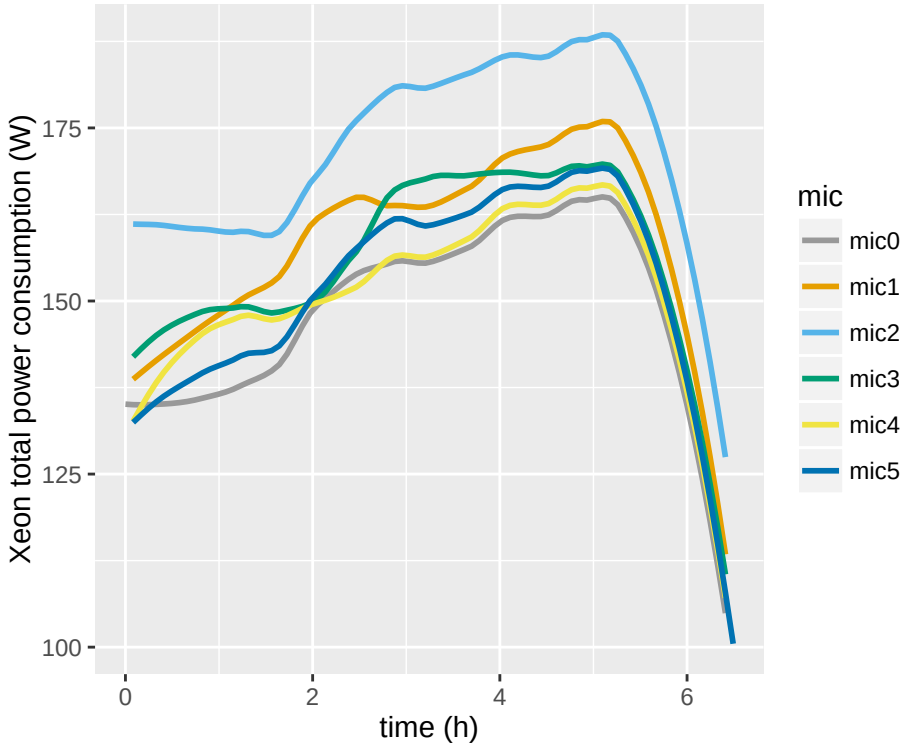

```
# plot cpuT
ggplot(log, aes(x=time, y=cpuT, color=mic, group=mic)) +
  stat_smooth(size=1, method="loess", level=0.95, fullrange=TRUE, se=FALSE, span = 0.5) +
  ylab("Xeon cpu temperature (°C)") + xlab("time (h)") +
  scale_colour_manual(values=cbPalette)
```




```
# plot memT
ggplot(log, aes(x=time, y=memT, color=mic, group=mic)) +
  stat_smooth(size=1, method="loess", level=0.95, fullrange=TRUE, se=FALSE, span = 0.5) +
  ylab("Xeon MEM temperature (°C)") + xlab("time (h)") +
  scale_colour_manual(values=cbPalette)
```



```
# plot totW
ggplot(log, aes(x=time, y=totW, color=mic, group=mic)) +
  stat_smooth(size=1, method="loess", level=0.95, fullrange=TRUE, se=FALSE, span = 0.5) +
  ylab("Xeon total power consumption (W)") + xlab("time (h)") +
  scale_colour_manual(values=cbPalette)
```

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