THz Optics & Photonics Center

http://topcenter.site.nthu.edu.tw/index.php

2020 Service Plan

(a transparent double-return Jackpot!)

Service Team

Secretariat
林天慧 (x62340, lin_th@gapp.nthue.edu.tw),
高仔萱 (x34930, yhkao@gapp.nthu.edu.tw)

Engineering
Alexey Kopyenkin (a.kopeykin@mx.nthu.edu.tw),
Evgeny Kalinovets (arriving in Oct. 2020) ,
Dr. Bao-Dong To (baodong@gapp.nthu.edu.tw)

Directorate
黃衍介 (ychuang@ee.nthu.edu.tw)、劉怡君 (jennyliu@gapp.nthu.edu.tw)、
楊尚樺 (shanghua@ee.nthu.edu.tw)

- **2020 Theme:** connecting & supporting people in the areas of THz and/or Optics and/or Photonics through services
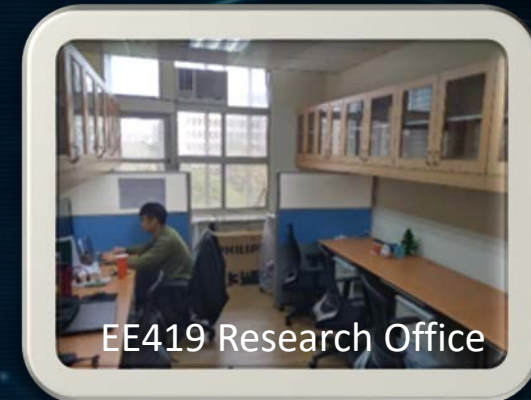
- **Center-owned Services:**

(1) Optics lab course (already offered in 2019 and 2020)
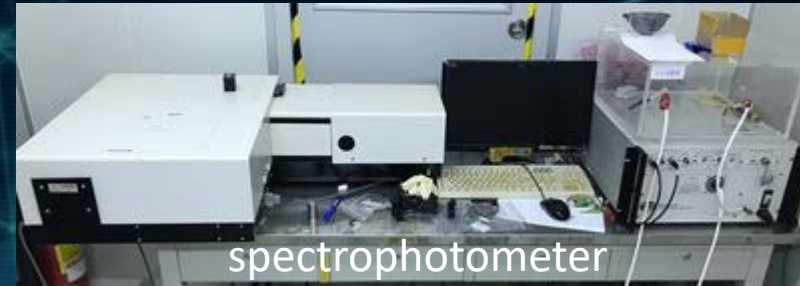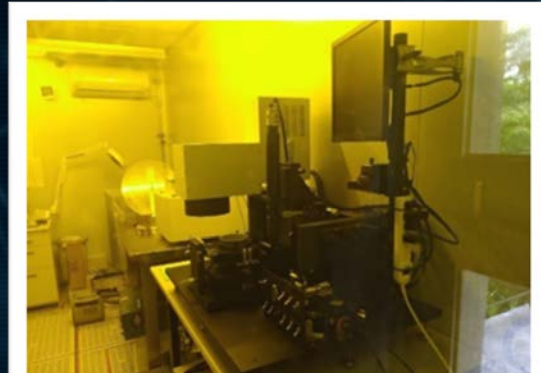

summer optics-lab course

EE420 teaching lab

EE419 Research Office

(2) Computer cluster with simulation tools (to be established by Nov. this year)

功能	CPU [cores]	Memory [GB]	Hard Disks [個數/RAID架構/實際可用硬碟空間]	# of R640 [台數]
Cluster master	8 * 2	16 * 4	2 + 2 1.8 TB 2個，第一組RAID1 掛載 "/" 1.8 TB 2個，第二組RAID1 掛載 "/opt" 實際可用硬碟空間 3.6 TB	1
NIS/DHCP	8 * 2	16 * 2	2 600 GB 2 個，一組RAID1 掛載 "/" 實際可用硬碟空間 600 TB	1
NFS	8 * 2	16 * 2	8 1.8 TB 8個，一組RAID5 掛載 "/home" 實際可用硬碟空間 10.8 TB	1
Computing node	8 * 4	16 * 4	2 600 GB 2 個，一組RAID1 掛載 "/" 實際可用硬碟空間 600 TB	4

- **Center Co-Op Services:** (owned by professors and co-managed by TOP)

THz TDS, THz FDS, FTIR, TEM, optical coating/sputtering, lithography, precision wafer dicing (refer to http://topcenter.site.nthu.edu.tw/p/412-1488-15938.php)

spectrophotometer

Litho-patterning, optical coating (AR, HR, PR), thin-film sputtering, wafer dicing, TEM etc.

TeraScan Frequency-Domain Terahertz Platform

High-Speed Terahertz ASOPS Time-Domain Spectrometer

* Not to compete with 奈材中心! We only take jobs that can't be done or can't be conveniently done by 奈材中心.

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- **Budget plan** (total 5M university support this year)

(1) 1.5M investment on an 80-core computer cluster + simulation tools with professional management (computer codes for high-frequency electromagnetics and optics are being considered and negotiated.)

(2) 1.5 M for staff salaries (between Jan. and Dec., 2020)

(3) 0.5 M for housekeeping (~0.2M for constructing a thermally and acoustically insulated cleanroom for the computer cluster)

(4) 1.5 M financial incentives for **TOP fellows***

* Definition of a **TOP Fellow**

- In 2020, a TOP Fellow is broadly considered as a professor who is affiliated to NTHU and whose work is relevant to THz and/or Optics and/or Photonics and their applications.

- Next year, the TOP Fellows are NTHU affiliated faculty members who (1) received financial/service supports from the TOP, (2) organized/attended activities of the TOP, (3) contributed to KPI required by the university, (4) had registered collaboration projects under the TOP, (5) helped to support the TOP, such as maintaining the TOP and/or offering Co-Op services through the TOP.

2020 Financial Incentives for TOP Fellows

1. Your Support to TOP

(1) You identify and pay for the services from your project fund with a mount of "A" (Eg. 50,000 NT/year/account for the simulation cluster, 3,000 NT/student for the optics lab-course training (rent for EE419), or an negotiated amounts for the Co-Op services (http://topcenter.site.nthu.edu.tw/p/412-1488-15938.php)

*Quality control: max of 15 students for the teaching-lab course, max of 10 computer accounts (1 account/group) for this fiscal year (Aug. 2020 – July 2021).

(2) You propose to set up a new Co-Op by the end of this year or help maintain a Center service, and request a budget "B" from the TOP.

(3) You propose a collaboration involving more than 3 faculty groups with a budget "C".

(4) "A" or "B" or "C" each has to be $\leq$ 100k NT/fellow. A fellow can propose up to 200k NT.

2. Our Double-return to YOU

(1) For "A", the TOP delivers you the services with a mutually agreed schedule and a receipt for you to pay "A" from your own research fund. Jackpot! then TOP award you "A" to support your research (spent before Nov. 10, 2020, on something other than TOP services .

(2) For "B", 50% of the generated income from your proposed or maintained Co-Op goes back to your group. (see next page)

(3) For "ABC", you win the priority of receiving financial incentives next year (see Page 4).

3. Application

(1) Eligibility: You are a 2020 TOP Fellow (see definition on Page 4).

(2) Proposal: < 1 page end before Sep. 30, first come first serve until the fund dries up.

- Your identity: name & affiliation

- Eligibility: a short note on your current and/or future work relevant to "THz", "Optics", "Photonics", and their "applications"

- Some detail and the rationale behind your "A", "B", "C".

(3) Contact: Ms. Yu-Hsuan Kao yhkao@gapp.nthu.edu.tw, tel: x39430

(4) Review: light review to detect obvious inconsistence. **An honor and transparent system**: By applying, you agree that the TOP lists your application/result detail and awarded grant on the TOP website.

Why do we collect your support?

1. Financial Challenges to the TOP Center

1) We receive no financial support from the university between Jan. - Jun.

2) We have full-time staffs who need to eat and live to serve all year round.

3) The maintenance of the TOP-Center services is costly.

2. Sustainability – we need to have income to serve you

1) Center-owned Services (eg. Teaching lab, computer cluster..): 80% income is kept in the Center and 20% goes to the university overhead.

2) Center Co-Op Services*: 50% income goes to the owner professor, 30% is kept by the Center, and 20% is paid to the university

3) Center-registered collaboration projects: We 50/50 split the overhead with departments for projects accessing to the Center's facilities and registered under the Center.

* As a new center, we rely on the expensive equipment in YOUR lab to establish services. Hopefully, the "50%" to you could be an incentive for you to run a Co-Op .

THANK YOU FOR YOUR KIND SUPPORT