

# SPOT Software 中文操作



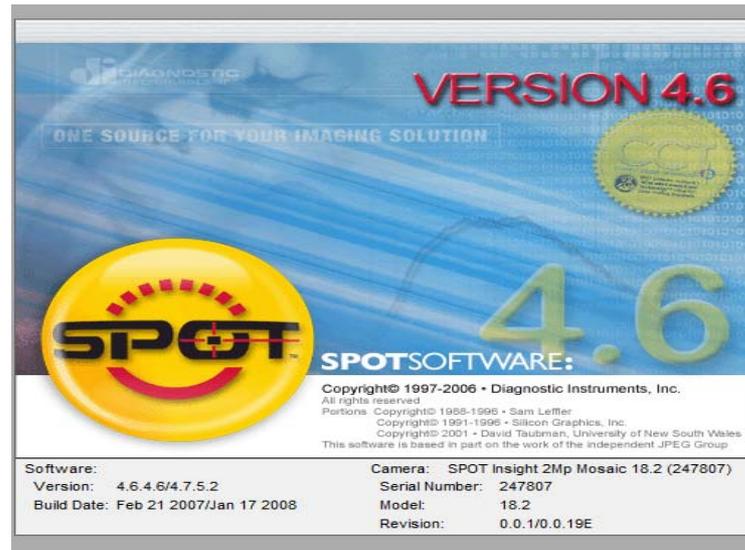
岑祥股份有限公司  
TSENG HSIANG LIFE SCIENCE LTD.

LIFE SCIENCE  
TECHNOLOGIES

# 目錄

- 影像獲取功能【快速操作】
- 建立拍攝程式組
- **Live**視窗控制
- 影像編修功能
- 動態擷取操作說明部分
- 其他功能
- 注意

# 影像獲取功能【快速操作】



The image shows the splash screen for SPOT Software Version 4.6. The background is blue with a grid pattern and binary code. The text 'DIAGNOSTIC' is visible in the top left. The main text reads 'VERSION 4.6' in red and '4.6' in large green numbers. A yellow circular logo with 'SPOT' and a red crosshair is on the left. Below the logo, it says 'SPOTS SOFTWARE:'. Copyright information is listed at the bottom, including 'Copyright © 1997-2006 • Diagnostic Instruments, Inc.' and 'All rights reserved'. Technical details are provided in a table at the bottom.

Software:	Camera:
Version: 4.6.4.6/4.7.5.2	SPOT Insight 2Mp Mosaic 18.2 (247807)
Build Date: Feb 21 2007/Jan 17 2008	Serial Number: 247807
	Model: 18.2
	Revision: 0.0.1/0.0.19E

# 影像獲取功能【快速操作】

1. 調節顯微鏡，直到可以清楚地看到標本【將顯微鏡的光路轉換到拍攝狀態】
2. 打開SPOT控制軟體，點擊螢幕右下角的拍攝協定視窗,選擇一個合適的協定(SPOT軟體提供了一套廠家設定的協定,可滿足大多數情況下的拍攝，但最好還是自己設置一下)
3. 點擊視窗內（右上角）的LIVE圖示，相機開始即時預覽，你將看到要拍攝的區域。將焦距調到最清楚（直接調焦，從顯示器上就可以直接看到變化），然後關閉LIVE視窗
4. 點擊Get image（相機圖示）拍攝

# 快速操作

The screenshot shows the SPOT software interface. The title bar reads "SPOT" and the menu bar includes "File", "Database", "View", "Camera", "Setup", "Macro", "Peripheral Devices", and "Help". The main window displays a splash screen with the following text:

*直接點選軟體 Spot software*  
*Creative control without the complex interface*

**windows:VERSION 4.6**  
ONE SOURCE FOR YOUR IMAGING SOLUTION

**SPOT** SPOT SOFTWARE: 4.6

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Portions Copyright© 1988-1998 • Sam Leffler  
Copyright© 1991-1996 • Silicon Graphics, Inc.  
Copyright© 2001 • David Taubman, University of New South Wales  
This software is based in part on the work of the independent JPEG Group.

Software:	Camera:
Version: 4.6.0.1 Prelim/4.6.0.1	Serial Number: 101
Build Date: Oct 7 2005/Oct 7 2005	Model: SPOT Flex Mono
	Revision: 0.0.1/0.0.26 Eng

The bottom of the window shows a taskbar with the "start" button, several application icons, and the "SPOT Flex Mono 15.0 (101)" taskbar button. The system tray on the right shows "Brightfield" and the time "10:17 AM".

# 快速操作

The screenshot shows the SPOT software interface. The title bar reads "SPOT" and the menu bar includes "File", "Database", "View", "Camera", "Setup", "Macro", "Peripheral Devices", and "Help". The main workspace is a large grey area. On the right side, there is a vertical toolbar with icons for "Live", a camera, a magnifying glass, and a refresh symbol. At the bottom, the Windows taskbar is visible with the "start" button, several application icons, and the system tray showing "SPOT Flex Mono 15.0 (101)", "Brightfield", and the time "3:27 PM".

Four yellow callout boxes with red borders and red arrows pointing to specific areas of the interface provide the following information:

- 功能列**  
如同Microsoft功能表列於上面
- 快捷列**  
可快速執行功能  
包括預覽、測光拍攝、延續拍攝、放大預覽及自動白平衡等相關功能快速鍵
- 影像狀態列**  
包括相機模式、影像畫素及格式(Bit數)
- 拍攝條件設定**  
可將條件設定於此程式組內  
拍攝時依實際狀況直接選取  
拍攝參數

# 快速操作

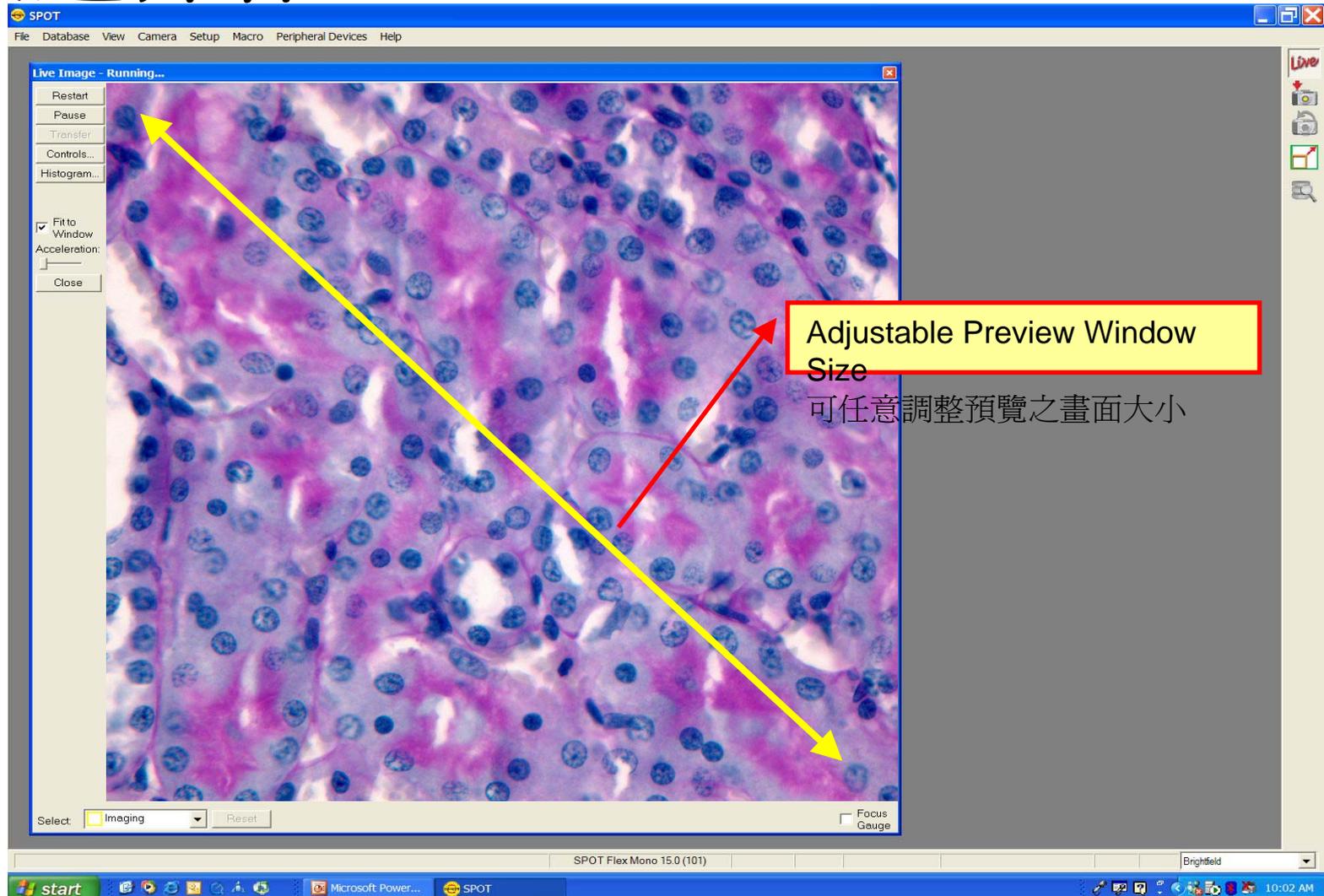
**Realtime Live Preview Control**  
即時影像預覽控制選項  
可調整預覽之明亮, 曝光時間集靈敏度相關調整

**Realtime Live Preview**  
即時影像預覽功能

**Focus Gauge**  
對焦輔助鍵  
可即時提供對比值以藍色色帶表現對比強烈與否, 僅提供輔助之用

**Area Subject**  
區域調整  
相關區域性調整  
包括測光區域、預覽區域、對焦輔助區域等

# 快速操作



# 快速操作

The screenshot displays the SPOT software interface. The main window, titled "Live Image - Running...", shows a histological image of tissue. On the right side of this window, there is a vertical "Focus Assist Indicator" bar, which is a gradient from blue at the top to red at the bottom. A red arrow points from a text box to this bar. Below the image, there is a "Focus Gauge" checkbox which is checked. Another red arrow points from a text box to this checkbox. The software has a menu bar (File, Database, View, Camera, Setup, Macro, Peripheral Devices, Help) and a taskbar at the bottom showing the Windows start button, several application icons, and the system tray with the time 9:48 AM.

SPOT

File Database View Camera Setup Macro Peripheral Devices Help

Live Image - Running...

Restart  
Pause  
Transfer  
Controls...  
Histogram...

Fit to Window  
Acceleration

Close

Select:  Imaging  Focus Gauge

Focus Assist Indicator  
協助對焦工具列  
藍色色塊越高，代表對比越強烈，則對焦越準確  
(依軟體影像認定)

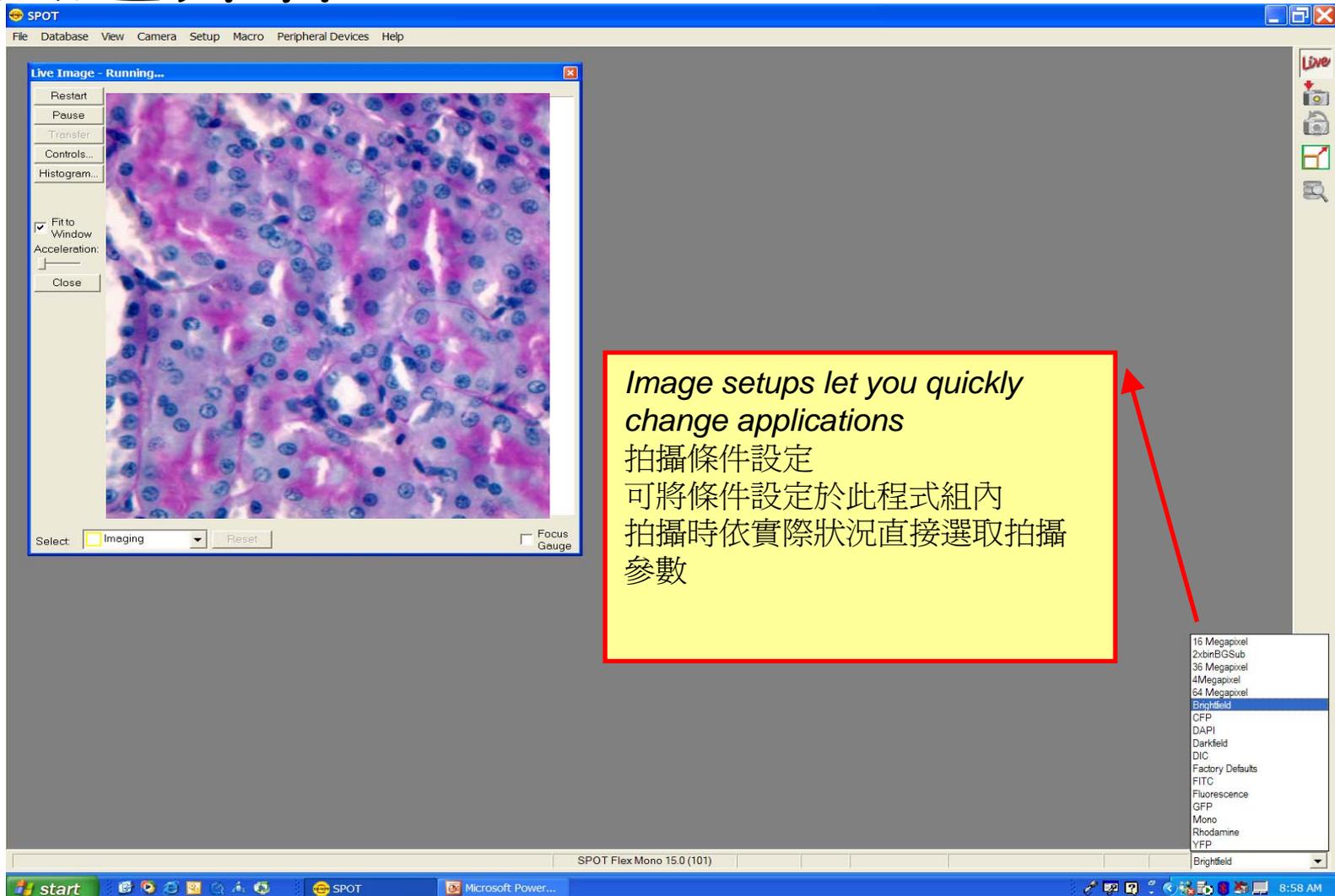
可勾選是否啓動  
協助對焦工具列

SPOT Flex Mono 15.0 (101)

Brightfield

start Microsoft Power... SPOT 9:48 AM

# 快速操作



*Image setups let you quickly change applications*

拍攝條件設定  
可將條件設定於此程式組內  
拍攝時依實際狀況直接選取拍攝參數

16 Megapixel  
2xbinBGSUB  
36 Megapixel  
4Megapixel  
64 Megapixel  
Brightfield  
CFP  
DAPI  
Darkfield  
DIC  
Factory Defaults  
FITC  
Fluorescence  
GFP  
Mono  
Rhodamine  
YFP  
Brightfield

# 快速操作

The screenshot displays the SPOT software interface. The main window shows a microscope image of a red, oval-shaped specimen on a black background. The software has a menu bar with options: File, Database, Edit, View, Camera, Setup, Macro, Peripheral Devices, Window, and Help. A toolbar on the right side includes icons for Live, image capture, zoom, and other functions. Two yellow callout boxes with red borders and arrows point to specific icons in the toolbar:

- One button image capture**  
快速鍵- 自動測光拍攝
- One button image capture**  
快速鍵- 延續前張影像測光參數拍攝

The Windows taskbar at the bottom shows the Start button, several open applications (Microsoft PowerPoint, SPOT), and the system tray with the time 10:01 AM.

# 建立拍攝程式組



The image shows the splash screen for SPOT Software Version 4.6. The background is blue with a grid pattern and binary code. The text 'DIAGNOSTIC' is in the top left, and 'VERSION 4.6' is in red at the top right. Below that, it says 'ONE SOURCE FOR YOUR IMAGING SOLUTION'. The SPOT logo is a yellow circle with 'SPOT' in black and red. To the right, '4.6' is written in large green numbers. Below the logo and version number, there is a copyright notice: 'Copyright © 1997-2006 • Diagnostic Instruments, Inc. All rights reserved. Portions Copyright © 1988-1996 • Sam Leffer Copyright © 1991-1996 • Silicon Graphics, Inc. Copyright © 2001 • David Taubman, University of New South Wales. This software is based in part on the work of the independent JPEG Group'. At the bottom, there is a table with software and camera information.

Software:	Camera: SPOT Insight 2Mp Mosaic 18.2 (247807)
Version: 4.6.4.6/4.7.5.2	Serial Number: 247807
Build Date: Feb 21 2007/Jan 17 2008	Model: 18.2
	Revision: 0.0.1/0.0.19E

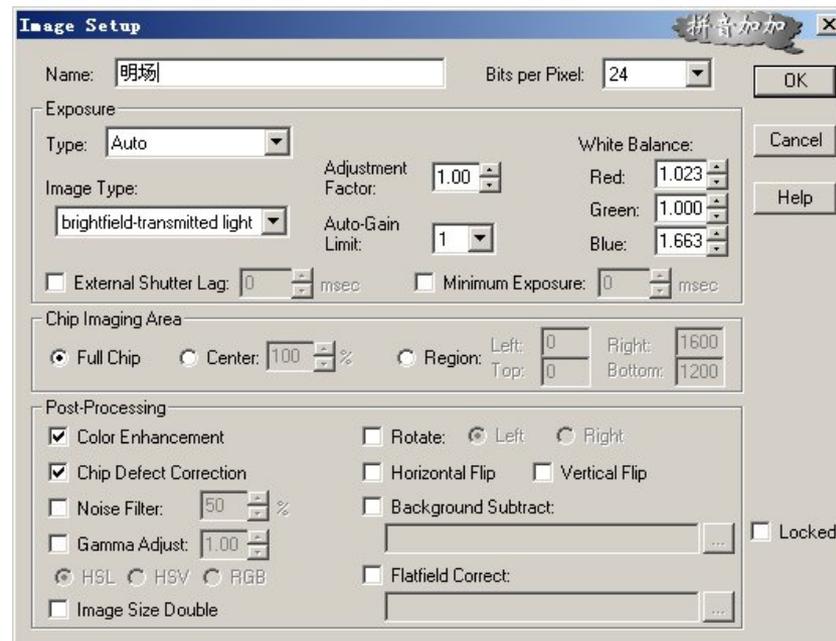
# 建立拍攝程式組

1. 點擊Setup
2. 選取Image Setup；（以上兩步也可以直接在螢幕右下腳功能表處點右鍵，選擇Add）
3. 選取Add； 選擇拍攝的模式（如圖所示）



# 建立拍攝程式組

4. 為程式組取一個名字
5. 設定各項參數（參見後面所述）
6. 點擊確定。這時自己的程式組將出現在螢幕右下角的協定視窗，以後拍攝時只須選中即可，不必再進行逐項設定。



# 設定程式組參數說明

## □ 選取圖像類型 ( Bits per Pixel )

- ( 8 bit mono/12 bit mono/14 bit mono/ 24 bit RGB/ 36 bit RGB/48 bitRGB )
- 拍攝彩色圖像一般選擇**24RGB**，因為一般軟體均支援此方式。如果是**3 shot or Slide** 機種, 要拍攝螢光時，在濾光片的選擇上最好選擇要拍攝的螢光的顏色，這樣軟體會自動套色（例如拍攝綠色螢光，則只選擇綠色濾光片）]

# 設定程式組參數說明

## □ 選定曝光方式（Exposure Type）

- 自動曝光或手動曝光模式選擇，亦可依循Live模式之曝光參數
- 一般情況下選擇自動曝光，這樣品質會較好。

## □ Gain 值的選擇

- Gain值所代表的意思是為CCD晶片輸出，是否增幅意義，其中1為容納最多
- Gain= 1狀況下，須有一畫素擷取滿電子數才視為曝光完全，然後送出訊號，影像擷取完成；Gain= 2代表為容納最多電子數為滿電子數的1/2，及完成擷取送出訊號，再透過2倍加乘，呈現影像；依此類推，Gain越高，擷取時間越短，但意味雜訊亦被放大
- 建議拍攝明視野影像時，可以選擇任意值（Gain=1- 4）；拍攝螢光時，推薦使用1或2（品質較佳）；若弱螢光拍攝，考慮訊號耗竭因素，建議Gain= 2-8。

# 設定程式組參數說明

## ■ 調節曝光因數（Adjust factor）

- 數字越大，實際曝光時間越長
- 適用於拍攝螢光，特別是以下情況：如果在拍攝的圖像中有一點特別亮，其他的都很暗，並且這個亮點是一個雜點或是不需要的，我們需要的則是那些暗的。這時我們就可以調節這個值（如調節為2.3，他的意思就是在實際的曝光基礎上乘以一個2.3的係數）這樣再拍攝，就會發現原來的亮點會曝光過度，但是原來不清楚的圖像現在則變清楚了



## ■ BINNING

- 光線弱時，可選定BINNING方式，以提高靈敏度，節省時間。數字越大，靈敏度越高；推薦拍攝弱螢光時使用2\*2【但是解析度亦會下降】

# 設定程式組參數說明

## ■ 選擇曝光順序

- 如果相機為3 shot or Slide機種相機，則曝光順序可以調整（特別是拍攝比較容易淬滅的螢光時），將容易淬滅的螢光先拍攝。順序即是RGB的各種組合（R—代表紅色，G-代表綠色，B—代表藍色）

## ■ 選定晶片成像區域

- 選擇：
  - Full Chip -----整個晶片成像
  - Center -----中心區域成像，通過設定百分比決定區域的大小
  - Region-----設定成像區域的座標）；
- 點擊要採取的後處理方式，Spot會在獲取圖像之後對其進行相應處理後再顯示在螢幕上。

# Live視窗控制



The image shows a software splash screen for SPOT Software Version 4.6. The background is blue with a grid pattern and binary code. The text 'DIAGNOSTIC' is visible in the top left. The main title 'VERSION 4.6' is in red at the top right. Below it, 'ONE SOURCE FOR YOUR IMAGING SOLUTION' is written in white. A large yellow circular logo with 'SPOT' in black and red is on the left. To its right, 'SPOT SOFTWARE:' is written in white, followed by a large green '4.6'. A small yellow circular seal is also present. At the bottom, there is a white box containing software and camera information.

DIAGNOSTIC

VERSION 4.6

ONE SOURCE FOR YOUR IMAGING SOLUTION

SPOT

SPOT SOFTWARE:

4.6

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Copyright © 2001 • David Taubman, University of New South Wales  
This software is based in part on the work of the independent JPEG Group

Software:	Camera: SPOT Insight 2Mp Mosaic 18.2 (247807)
Version: 4.6.4.6/4.7.5.2	Serial Number: 247807
Build Date: Feb 21 2007/Jan 17 2008	Model: 18.2
	Revision: 0.0.1/0.0.19E

# Live視窗控制

The screenshot displays the SPOT software interface. The main window is titled "Live Image - Running...". On the left side of this window, there is a vertical menu with buttons for "Restart", "Pause", "Transfer", "Controls...", and "Histogram...". The "Controls..." button is circled in yellow. A yellow arrow points from this button to the "Live Image Controls" panel on the right. The "Live Image Controls" panel contains several sections: "Exposure" (Type: Auto/Manual, Binning: <none>, Exposure Time: 445.7916 msec), "Area" (Imaging Area: Full Chip/Selection, Region (from image setup), Always Display Full Chip Area), and "Post-Processing" (Gamma: 1.00, Display Images in Grayscale, Indicate Saturated Pixels). A red arrow points from the bottom of the "Live Image Controls" panel to a yellow text box. The text box contains the following text:

Full control of live preview image  
可調整預覽之影像參數設定  
一般建議無須更改設定

The bottom of the screenshot shows the Windows taskbar with the "start" button, several application icons, and the system tray showing "SPOT Flex Mono 15.0 (101)", "Brightfield", and the time "8:55 AM".

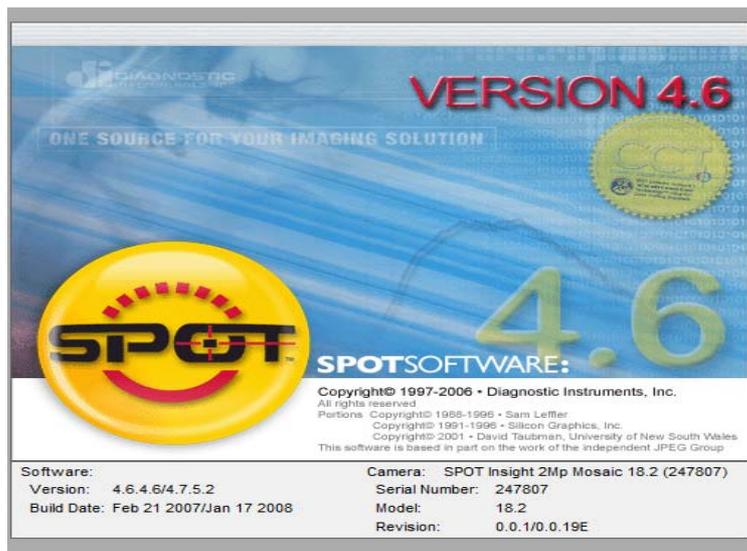
# Live視窗控制

The screenshot displays the SPOT software interface. The main window, titled "Live Image - Running...", shows a red, oval-shaped biological specimen against a black background. A yellow circle highlights the "Histogram..." button in the left-hand control panel. A yellow arrow points from this button to a smaller window titled "Live Image Histogram". This histogram window shows a graph with a peak on the right side, representing the intensity distribution of the image. A red arrow points from the histogram window to a yellow text box. The text box contains the following text:

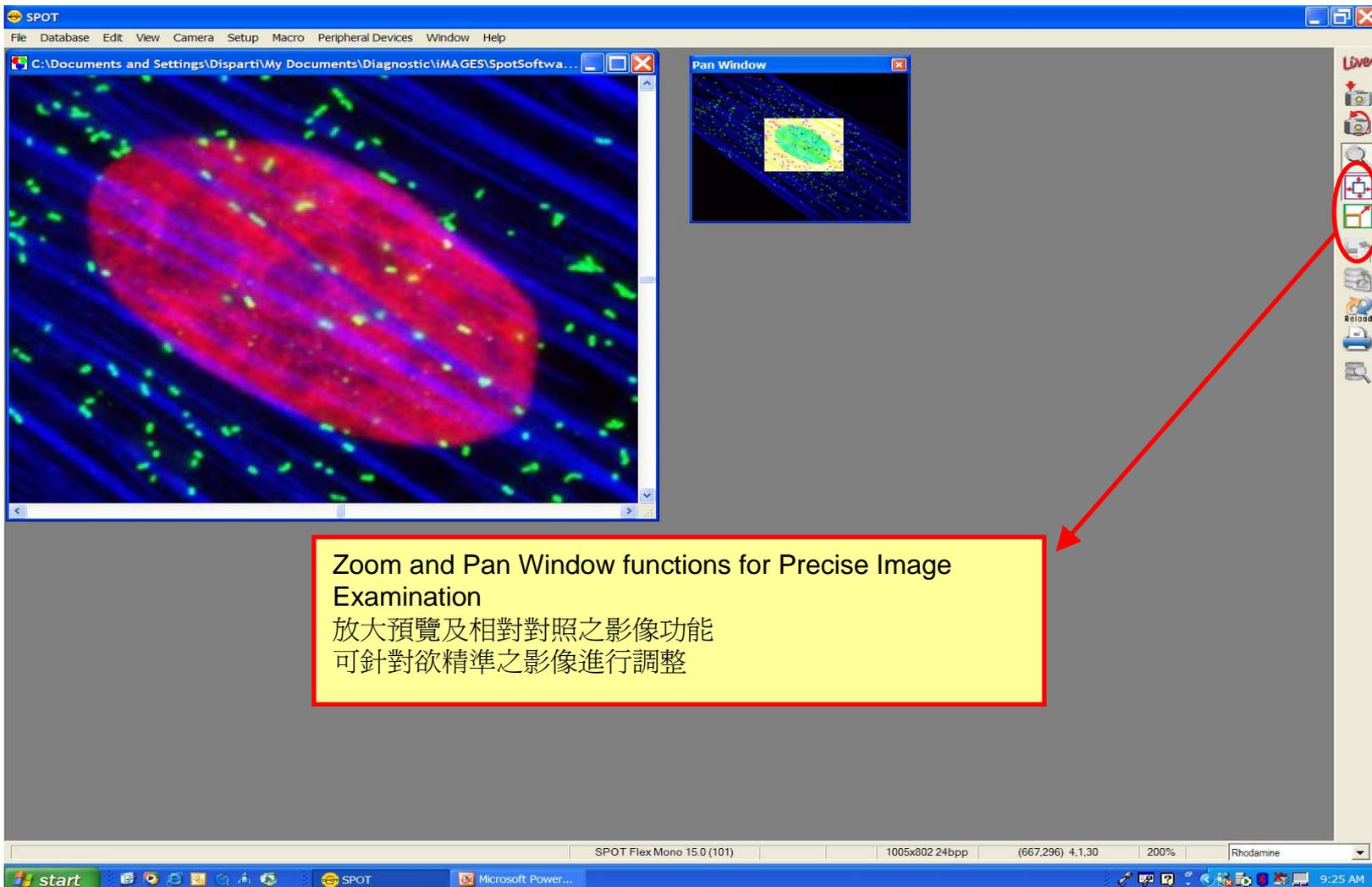
Live Image Histogram  
預覽影像背景Histogram參數調整  
一般建議無須更改設定

The SPOT software interface includes a menu bar with options: File, Database, View, Camera, Setup, Macro, Peripheral Devices, and Help. The taskbar at the bottom shows the Windows Start button, several application icons, and the system tray with the time 9:58 AM.

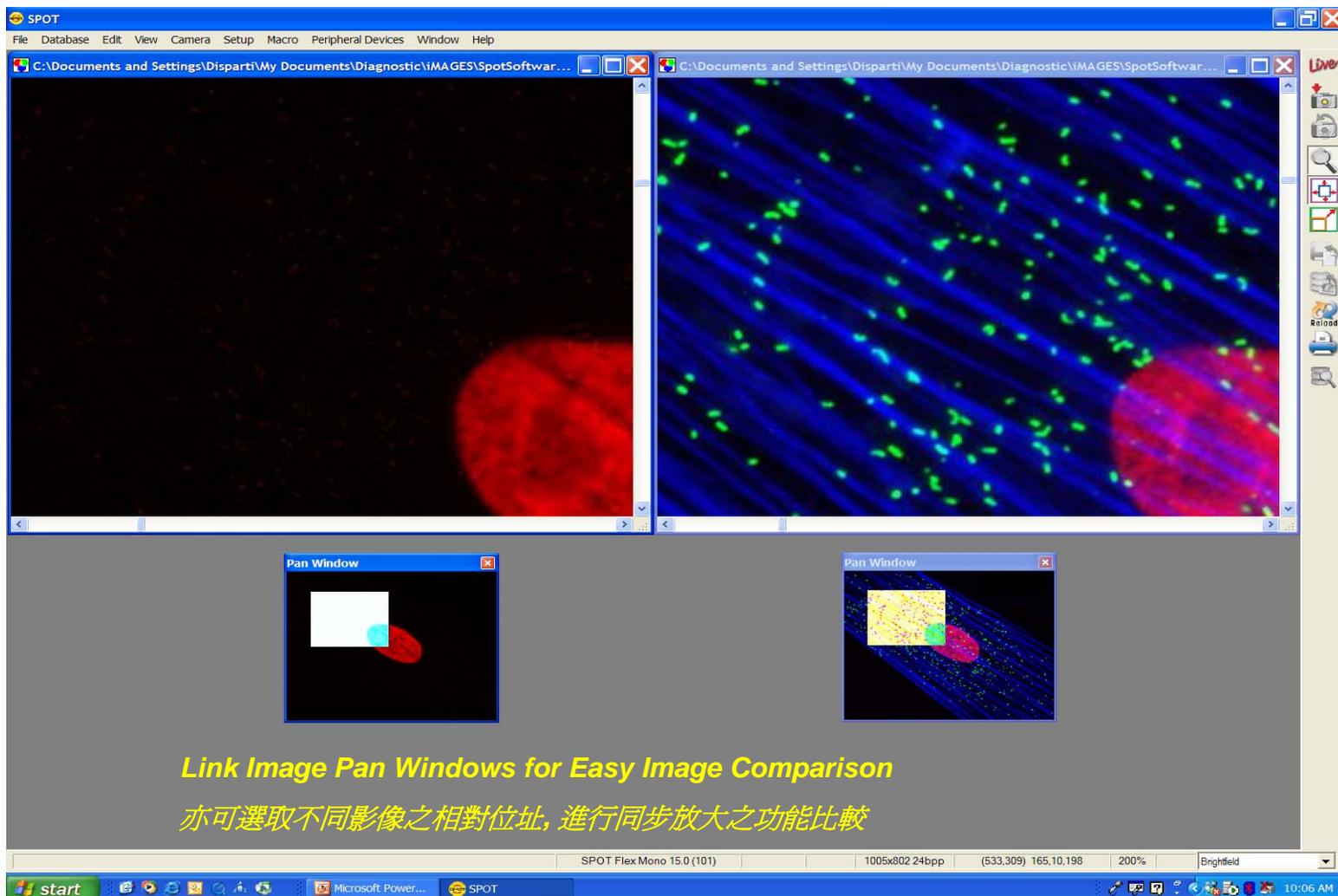
# 圖片預覽功能



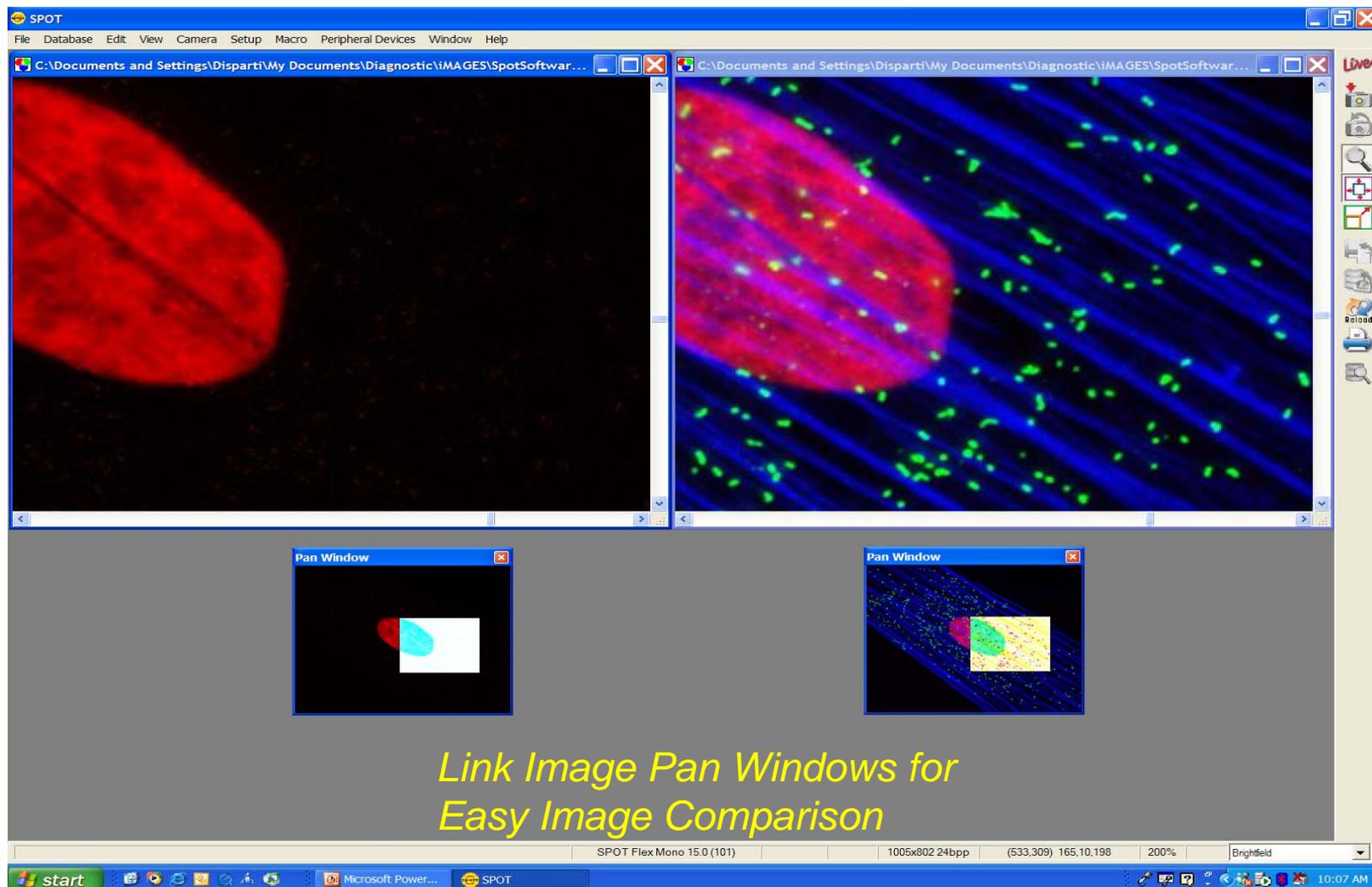
# 圖片預覽功能



# 圖片預覽功能



# 圖片預覽功能



# 影像編修功能



The splash screen features a blue background with binary code and a large yellow '4.6' in the center. The SPOT logo is on the left, and the text 'SPOTS SOFTWARE: 4.6' is on the right. A gold seal is in the top right corner.

DIAGNOSTIC  
VERSION 4.6  
ONE SOURCE FOR YOUR IMAGING SOLUTION

**SPOT** SPOTS SOFTWARE: 4.6

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Version: 4.6.4.6/4.7.5.2	Serial Number: 247807
Build Date: Feb 21 2007/Jan 17 2008	Model: 18.2
	Revision: 0.0.1/0.0.19E

# 影像編修功能

The screenshot displays the SPOT software interface. The 'Edit' menu is open, showing various options. Three red circles highlight specific menu items: 'Rotate Right', 'Rotate Left', and 'Flip Horizontal/Vertical' (grouped together); 'Adjust RGB', 'Adjust HSL', 'Adjust HSV', 'Filter', 'Make Negative', 'Convert to Gray Scale', 'Match Color...', 'Change Bit Depth', and 'Subtract Image...'; and 'Set Calibration...', 'Add/Edit Calibration Marks...', and 'Add/Edit Measurements...'. A red arrow points from the first group to a yellow box, another from the second group to a larger yellow box, and a third from the third group to a bottom yellow box. The main window shows a fluorescence microscopy image of a cell with blue and red channels. The Windows taskbar at the bottom shows the start button, several open applications, and the system tray with the time 9:35 AM.

File Database Edit View Camera Setup Macro Peripheral Devices Window Help

Undo  
Copy to Clipboard Ctrl+C  
Resize...  
Rotate Right  
Rotate Left  
Flip Horizontal  
Flip Vertical  
Crop...  
Adjust RGB  
Adjust HSL  
Adjust HSV  
Filter  
Make Negative  
Convert to Gray Scale  
Match Color...  
Change Bit Depth...  
Subtract Image...  
Merge Images...  
Annotate  
Set Calibration...  
Add/Edit Calibration Marks...  
Add/Edit Measurements...  
Merge  
Memo...

影像旋轉或翻轉

影像調整包括RGB(針對所有影像中的三原色調整), HSL(針對明視野影像), HSV(針對螢光影像), Filter(套色), Make negative(反白), Match color(背景調色)等相關功能選項

**Comprehensive Image Editing Tools**  
影像修飾工具列

Set Calibration 設定校正尺功能  
Add Calibration marker 增加標準尺標記  
Add/ Edit Measurement 測量功能

Rhodamine

start Microsoft Power... SPOT 9:35 AM

## ■ 剪切圖片

- 在圖片上選擇感興趣的區域用滑鼠劃出來，然後點擊edit—crop即可

## ■ 偽彩色填充

- 有時我們拍攝螢光使用mono模式拍攝，但又想將他填充成單彩色圖像。（或選定edit—Convert to grayscale，可將彩色圖像轉換成灰度圖像。再選擇change pixel bit depth，選擇8bit。）可以這樣作選擇edit——set palette就可以使用偽彩色來填充。

## ■ 偽彩色方案的設定

- 系統已經給了4個默認設置，但有時不符合心意，此時我們就可以自己設置顏色方案。做法如下：點擊setup——palette——add 在左側的調色板上選則符合心意的顏色，然後為它起一個名字，點擊ok。使用時在set palette裏的下拉功能表裏就有你自己設的方案，就可以直接使用，如果覺得顏色不符合心意，還可以修改，步驟是setup ——palette——選則要修改的方案的名字——modify就可以修改了。

## ■ 校準

- 先拍攝一張定尺規的圖像；
- 點擊**Setup**菜單；
- 選定**Calibration Setup**，出現對話方塊；
- 選定**Add**；
- 為將要建立的標準取一個名字（最好是顯微鏡的**物鏡倍數**）；
- 將游標放在圖像上，此時游標變成十字，在定尺規圖像的某一位置點擊，再將游標移到另一位置點擊；（最好是包括整數個一黑一白跨度）
- 在對話方塊最後一行鍵入實際長度和單位（一般一黑一白代表**100**個微米）；點擊**OK**。

## ■ 添加比例尺

- 點擊**edit—add calibration mark**，
- 選擇拍攝時的物鏡的倍數，然後在要加比例尺的圖像上用滑鼠左鍵點一下，就可以將比例尺加到圖像上，要保存點擊**stamp**。比例尺的大小，方向，顏色，位置，線條的粗細，都可以調整，方法如下：在對話方塊上直接選擇要修改的物件，調整即可
- 注意，在作操作前最好將原圖保留，因為一旦最後存儲之後，將沒有辦法再修改

## ■ 測量

- 點擊Edit菜單；
- 選取Add Measurement，出現對話方塊；
- 選定一個測量標準（一般為拍攝時的物鏡倍數）；
- 選定測量類型（直線距離/角度/曲線距離/區域面積）；
- 在圖像上移動，點擊滑鼠即可進行測量，結果會顯示在圖像上；
- 如果想保留測量結果，點擊對話方塊上的Stamp即可。
- 注意，在作操作前最好將原圖保留，因為一旦最後存儲之後，將沒有辦法再修改

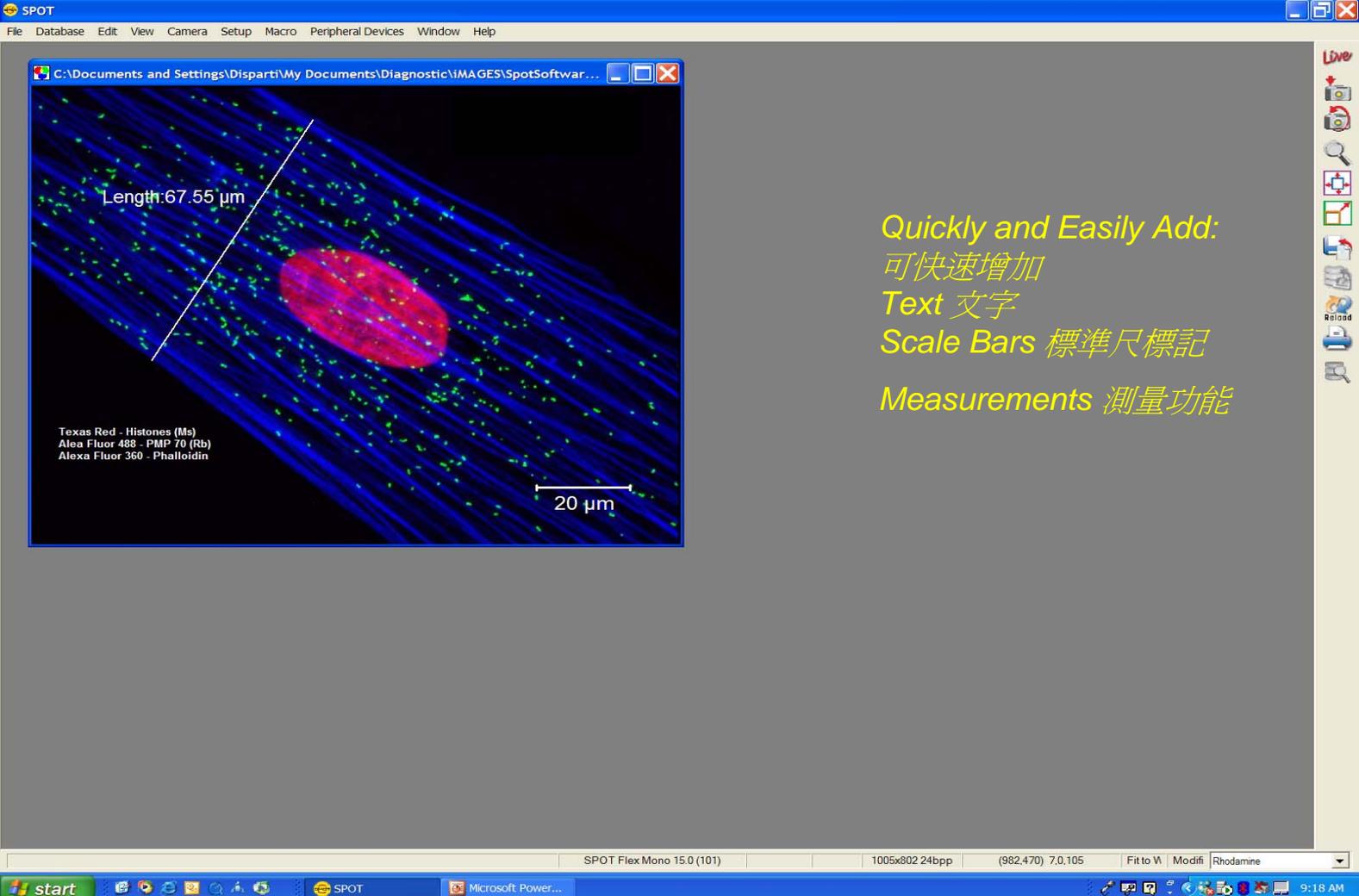
## ■ 選擇標注工具

- 點擊Edit菜單；
- 選定Add Annotate，此時螢幕上方功能表發生改變，出現Object，Attribute，Done三個新選項；
- 點擊Object；
- 選定自己需要的元素或選擇view——show tools來使用快顯功能表。在圖像上拖動滑鼠，即可將其添加在圖像上；

## ■ 改變工具樣式

- 如果對某工具的樣式不滿意，點擊Attribute；
- 選定要修改的工具，設定其參數即可；
- 在圖像上標注完成之後，點擊Done，保存所作的操作，即可恢復原來的功能表。

# 影像編修功能



The screenshot displays the SPOT software interface. The main window shows a fluorescence microscopy image of a cell with blue filaments and a red nucleus. A white line indicates a measurement of 67.55  $\mu\text{m}$ . A scale bar at the bottom right of the image indicates 20  $\mu\text{m}$ . The image is annotated with the following text:

Length: 67.55  $\mu\text{m}$

Texas Red - Histones (Ms)  
Alea Fluor 488 - PMP 70 (Rb)  
Alexa Fluor 360 - Phalloidin

20  $\mu\text{m}$

The software interface includes a menu bar (File, Database, Edit, View, Camera, Setup, Macro, Peripheral Devices, Window, Help) and a toolbar on the right with icons for Live, zoom, pan, and other functions. The Windows taskbar at the bottom shows the start button, SPOT application, and system tray with the time 9:18 AM.

Quickly and Easily Add:

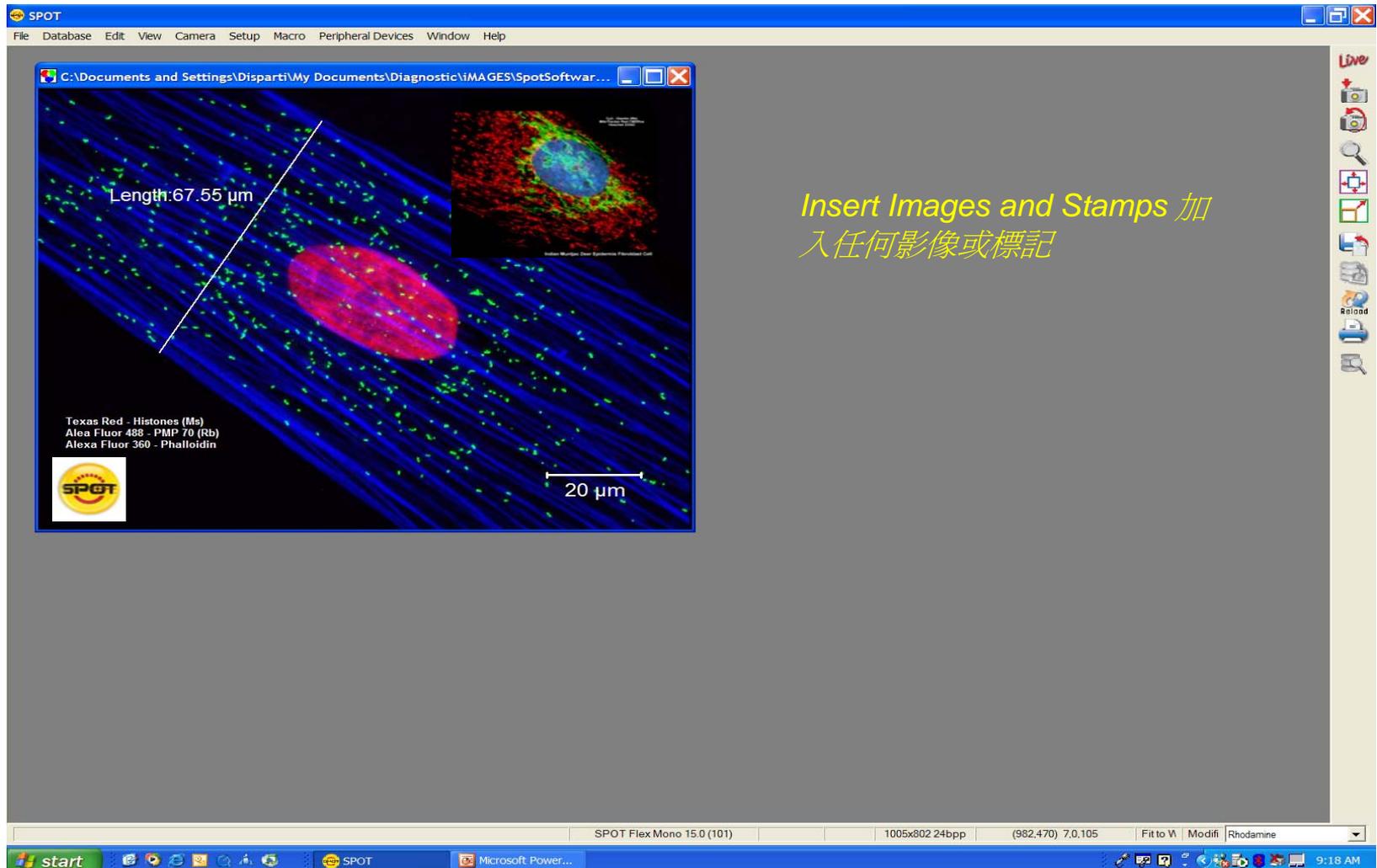
可快速增加

Text 文字

Scale Bars 標準尺標記

Measurements 測量功能

# 影像編修功能



The screenshot displays the SPOT software interface. The main window shows a fluorescence microscopy image of a cell with a blue nucleus, red cytoplasm, and green filaments. A white line indicates a length of 67.55  $\mu\text{m}$ . A 20  $\mu\text{m}$  scale bar is present. The image is annotated with a yellow SPOT logo and a list of channels: Texas Red - Histones (Ms), Alexa Fluor 488 - PMP 70 (Rb), and Alexa Fluor 360 - Phalloidin. An inset image in the top right shows a zoomed-in view of the nucleus. The software's menu bar includes File, Database, Edit, View, Camera, Setup, Macro, Peripheral Devices, Window, and Help. The status bar at the bottom shows 'SPOT Flex Mono 15.0 (101)', '1005x802 24bpp', '(982,470) 7.0,105', 'Fit to W', 'Modifi', and 'Rhodamine'. The Windows taskbar at the bottom shows the start button, several icons, and the time 9:18 AM.

Length: 67.55  $\mu\text{m}$

20  $\mu\text{m}$

Texas Red - Histones (Ms)  
Alexa Fluor 488 - PMP 70 (Rb)  
Alexa Fluor 360 - Phalloidin

SPOT

SPOT Flex Mono 15.0 (101) | 1005x802 24bpp | (982,470) 7.0,105 | Fit to W | Modifi | Rhodamine

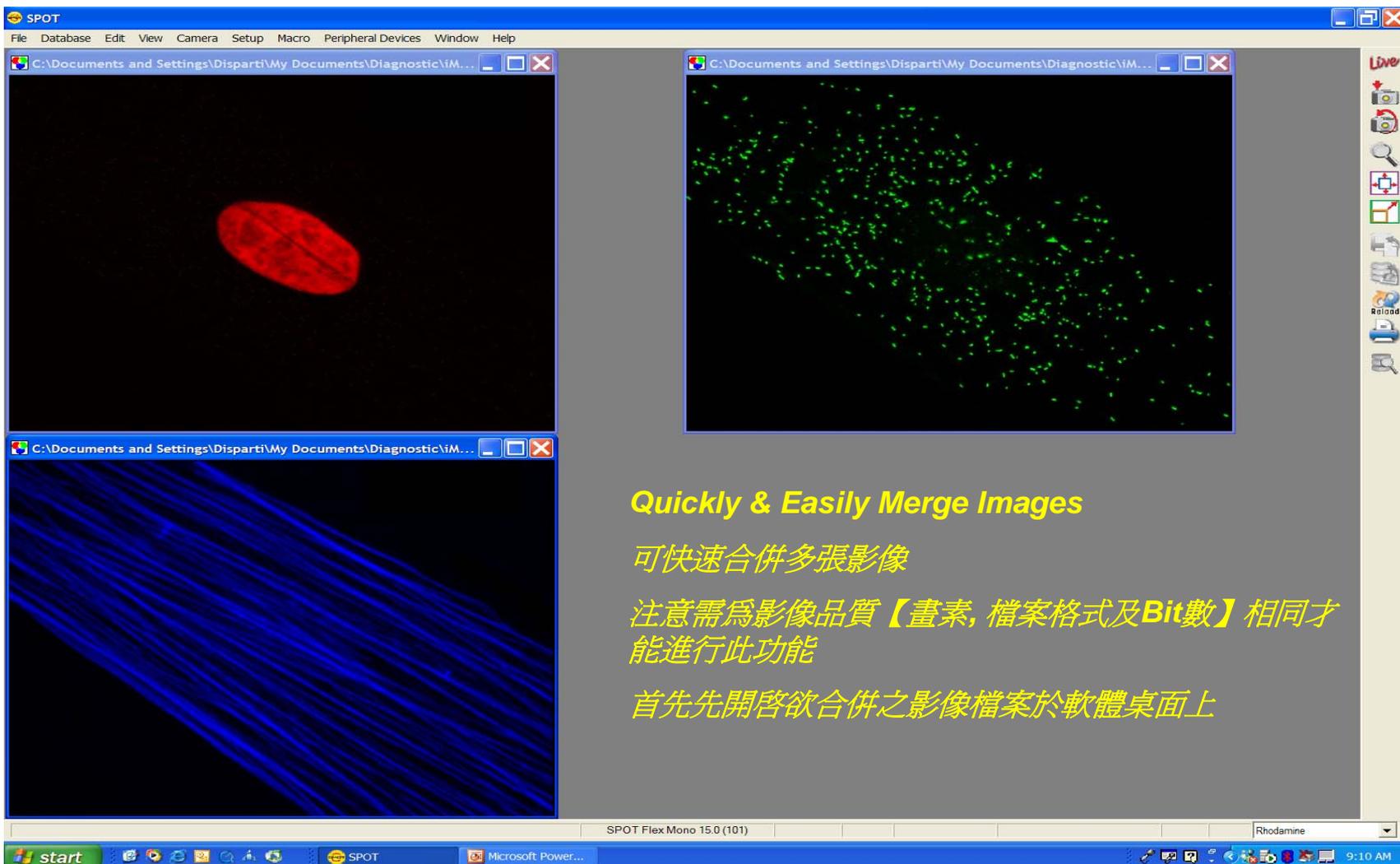
start | SPOT | Microsoft Power... | 9:18 AM

*Insert Images and Stamps 加入任何影像或標記*

# 影像編修功能-圖像疊加

- 點擊Edit菜單；
- 選定Merge Images；然後選則要疊加的圖像，（即白色框內的顯示的位置）也可以從硬碟上直接選則圖像，將其合成一幅圖像。該功能在拍攝多探針螢光圖像等情況下非常有用。

# 影像編修功能-圖像疊加



The screenshot displays the SPOT software interface with three image windows open. The top-left window shows a red oval-shaped object on a black background. The top-right window shows a green speckled pattern on a black background. The bottom-left window shows a blue striped pattern on a black background. The software interface includes a menu bar (File, Database, Edit, View, Camera, Setup, Macro, Peripheral Devices, Window, Help) and a toolbar on the right side. The taskbar at the bottom shows the Windows Start button, several application icons, and the system tray with the time 9:10 AM.

**Quickly & Easily Merge Images**

可快速合併多張影像

注意需為影像品質【畫素, 檔案格式及Bit數】相同才能進行此功能

首先先開啓欲合併之影像檔案於軟體桌面上

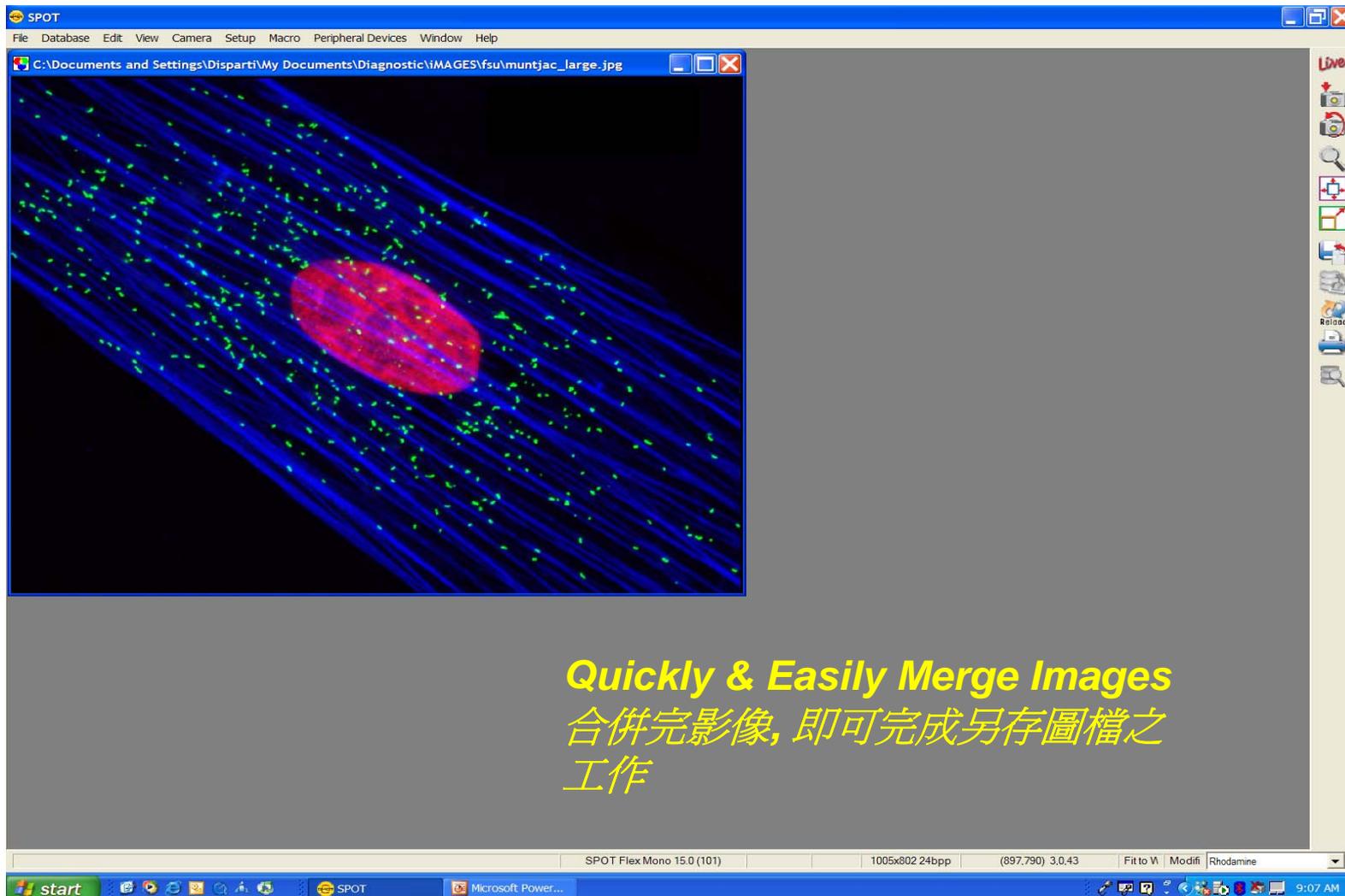
# 影像編修功能-圖像疊加

選取之影像亦可執行套色, 佔比比例及部分位移功能

Quickly & Easily Merge Images  
選取上方功能列內的Merge Image功能鍵  
會出現一功能視窗 (如中間所示)  
將欲合併之相關圖片進行合併動作

SPOT Flex Mono 15.0 (101) | 1005x802 24bpp | (536,753) 4.0.0 | Fit to W | Rhodamine | 9:11 AM

# 影像編修功能-圖像疊加



**Quickly & Easily Merge Images**  
合併完影像, 即可完成另存圖檔之  
工作

# 其他功能



The image shows a software splash screen for SPOT Software Version 4.6. The background is blue with a grid pattern and binary code. The text 'DIAGNOSTIC' is in the top left, and 'VERSION 4.6' is in red at the top right. Below that, it says 'ONE SOURCE FOR YOUR IMAGING SOLUTION'. The SPOT logo is a yellow circle with a red crosshair. To its right, 'SPOT SOFTWARE:' is written in white, followed by a large '4.6' in green. A small circular seal is also visible. At the bottom, there is a white box with software and camera information.

DIAGNOSTIC

VERSION 4.6

ONE SOURCE FOR YOUR IMAGING SOLUTION

SPOT

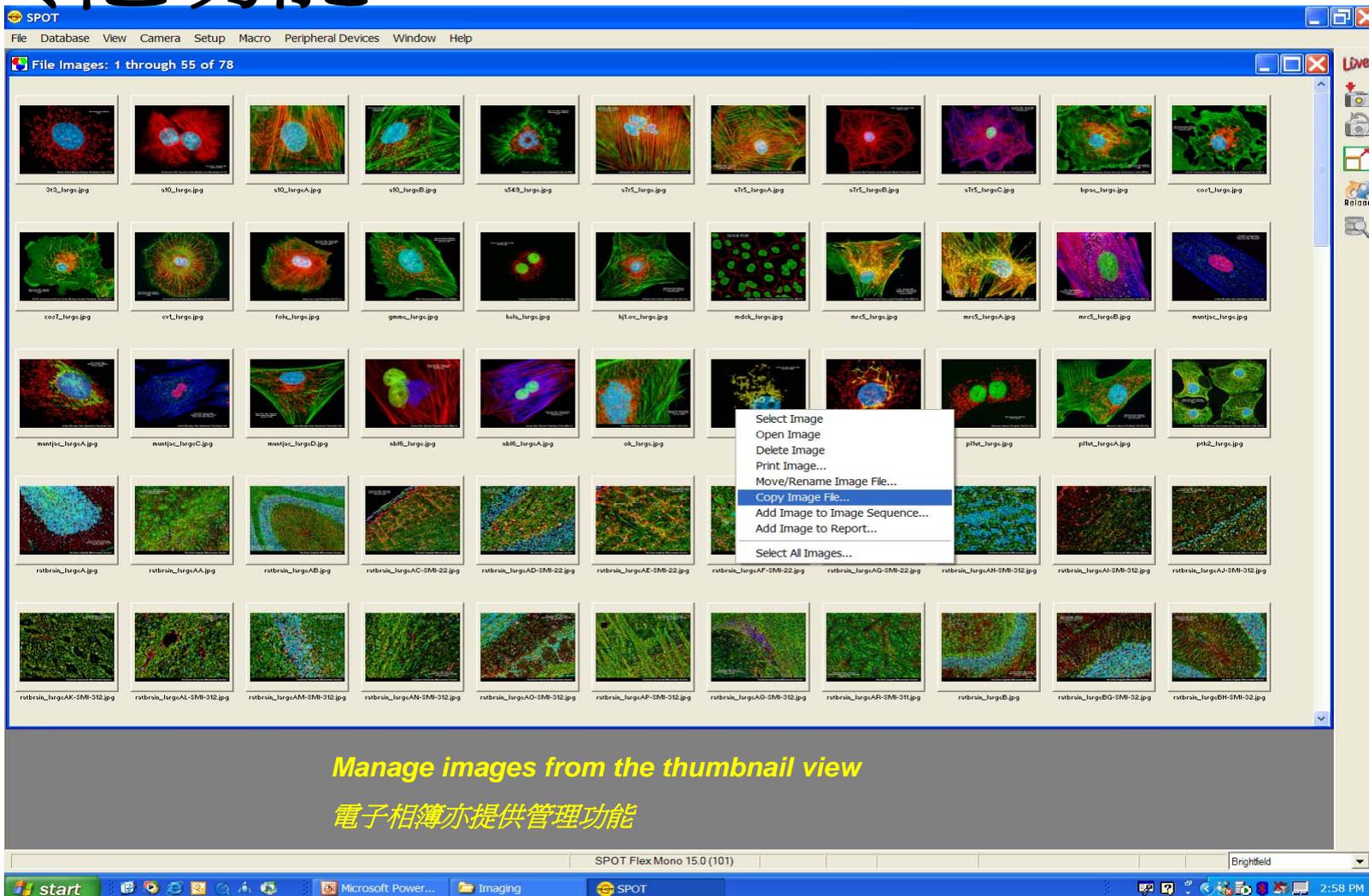
SPOT SOFTWARE:

4.6

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All rights reserved.  
Portions Copyright © 1988-1996 • Sam Leffer  
Copyright © 1991-1996 • Silicon Graphics, Inc.  
Copyright © 2001 • David Taubman, University of New South Wales  
This software is based in part on the work of the independent JPEG Group

Software:	Camera: SPOT Insight 2Mp Mosaic 18.2 (247807)
Version: 4.6.4.6/4.7.5.2	Serial Number: 247807
Build Date: Feb 21 2007/Jan 17 2008	Model: 18.2
	Revision: 0.0.1/0.0.19E

# 其他功能



# 其他功能

The screenshot displays the SPOT software interface. The main window shows a large fluorescence image of a rat brain section with the following text overlay: "Alexa Fluor 568 - GFAP (Ms)", "Alexa Fluor 488 - MAP-2 (Ch)", "Hoechst 33342", and "Rat Brain Horizontal 8-Micrometer Section". Below this image, there is a yellow text box with the text: "Search, Open, Copy, Delete and Print images quickly and easily" and "可任意搜尋, 開啓, 複製, 刪除, 列印等相關功能". To the right of the main image is a "File Images" window showing a grid of 46 thumbnail images, labeled from "ratbrain\_largeAL-SMI-312.jpg" to "ratcoloa\_large.jpg". The software interface includes a menu bar (File, Database, View, Camera, Setup, Macro, Peripheral Devices, Window, Help) and a taskbar at the bottom with the Windows Start button, taskbar icons for "Microsoft Power...", "Imaging", and "SPOT", and a system tray showing "Brightfield" and the time "2:55 PM".

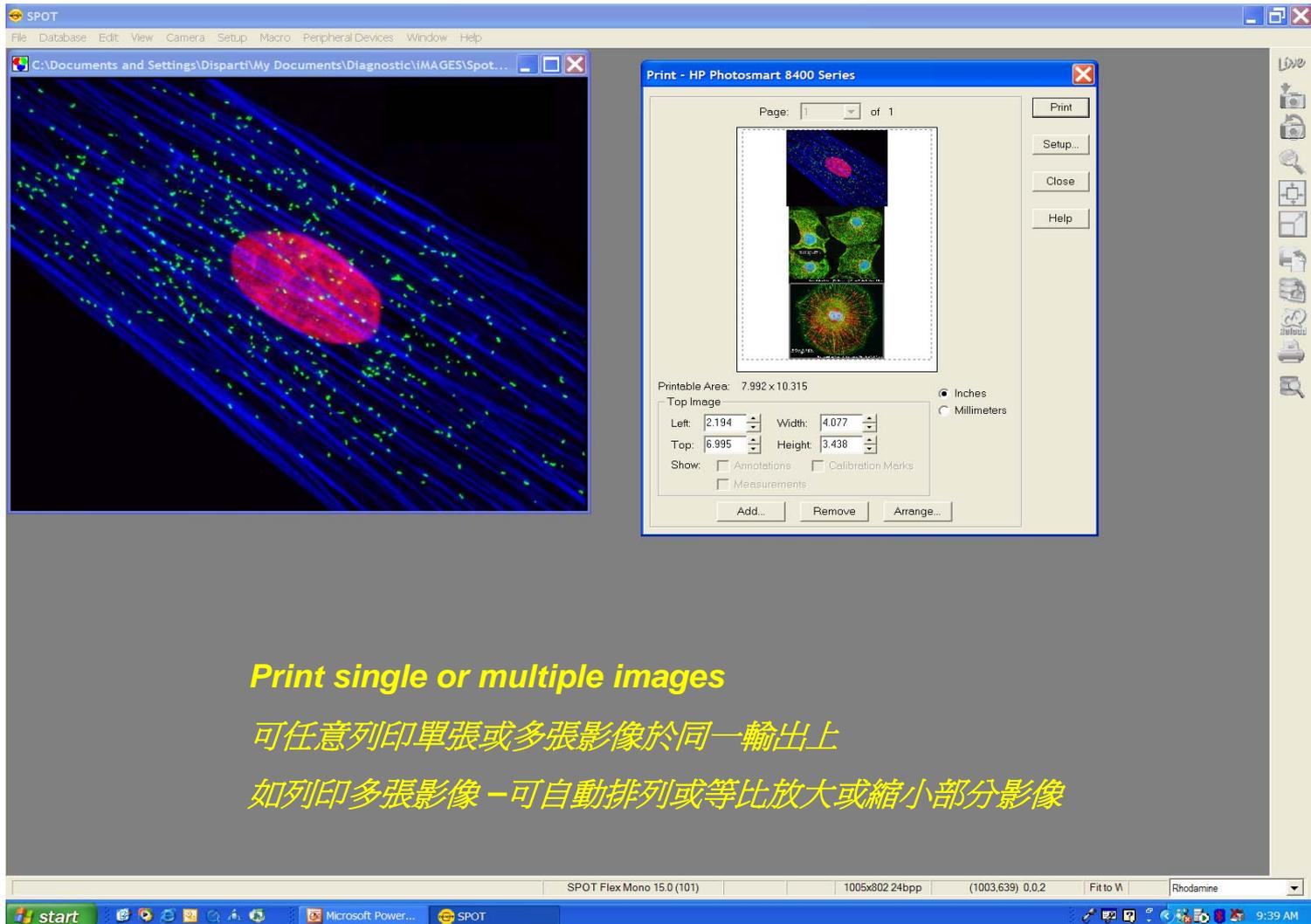
# 其他功能



**Print single or multiple images**

可任意列印單張或多張影像於同一輸出上

# 其他功能



The screenshot displays the SPOT software interface. On the left, a large window shows a fluorescence microscopy image of a cell with blue filaments and a red nucleus. On the right, a 'Print - HP Photosmart 8400 Series' dialog box is open, showing a preview of three images stacked vertically. The dialog includes a 'Page: 1 of 1' indicator, a 'Print' button, and a 'Setup...' button. Below the preview, the 'Printable Area' is listed as 7.992 x 10.315. The 'Top Image' section has input fields for 'Left: 2.194', 'Width: 4.077', 'Top: 6.995', and 'Height: 3.438'. There are also checkboxes for 'Annotations', 'Calibration Marks', and 'Measurements'. The 'Show:' section has 'Annotations' and 'Calibration Marks' checked. The 'Add...', 'Remove', and 'Arrange...' buttons are at the bottom of the dialog. The status bar at the bottom shows 'SPOT Flex Mono 15.0 (101)', '1005x802 24bpp', '(1003.639) 0,0,2', 'Fit to W', and 'Rhodamine'.

**Print single or multiple images**  
可任意列印單張或多張影像於同一輸出上  
如列印多張影像 - 可自動排列或等比放大或縮小部分影像

# 其他功能

The screenshot displays the SPOT software splash screen. The window title is "SPOT" and the menu bar includes "File", "Database", "View", "Camera", "Setup", "Macro", "Peripheral Devices", and "Help". The main content area features the following text:

**Creative control without the complex interface**

**SPOT**相機亦提供Twin介面, 任何可支援掃描器之影像分析軟體, 如: **Photoshop**等皆可驅動操作

**windows:VERSION 4.6**

ONE SOURCE FOR YOUR IMAGING SOLUTION

**SPOT** SPOT SOFTWARE: 4.6

Copyright © 1997-2005 • Diagnostic Instruments, Inc.  
All rights reserved.  
Portions Copyright: 1995-1996 • Sam Laffin;  
Copyright: 1993-1994 • Silicon Graphics, Inc.  
Copyright: 2001 • David Tuckman, University of New South Wales.  
This software is based in part on the work of the independent JPECO Group.

Software:	Camera:
Version: 4.6.0.1 Prelim/4.6.0.1	Serial Number: 101
Build Date: Oct 7 2005/Oct 7 2005	Model: SPOT Flex Mono
	Revision: 0.0.1/0.0.26 Eng

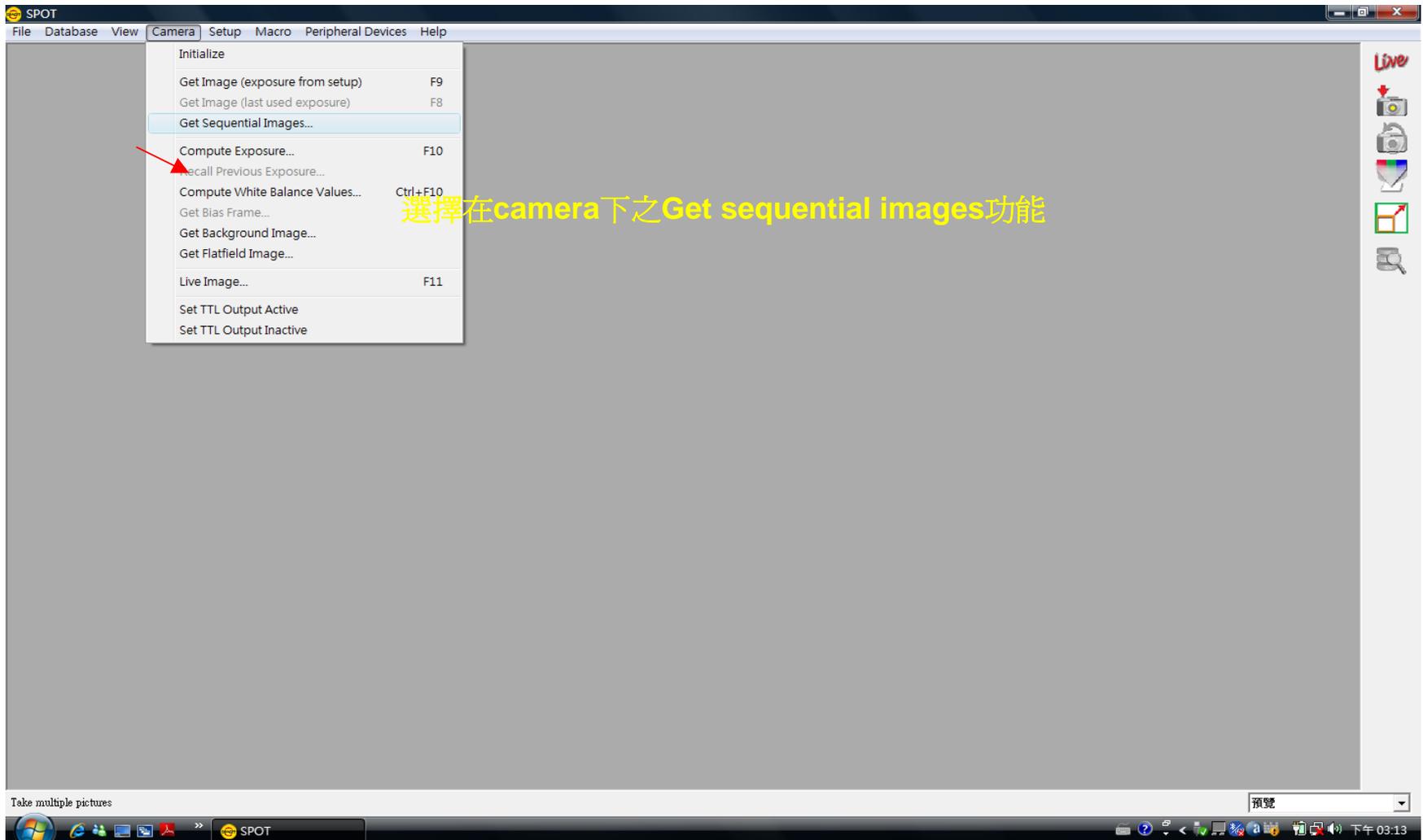
At the bottom of the splash screen, it says "Spot software included with all Diagnostic Instruments Cameras". The Windows taskbar at the bottom shows the "start" button, several icons, and the system tray with the time "10:17 AM".

*Spot software included with all Diagnostic Instruments Cameras*

# 動態擷取操作說明部分



# 動態擷取操作說明部分



# 動態擷取操作說明部分

選擇欲擷取之影像之張數及間隔時間(亦可以選擇最短時間), 然後點選**Place Images in an Image Sequence**功能

**PS.**若亦點選**Defer Image Processing/ Display until Done**, 則是將每張影像放置於操作介面上, 如拍攝十張, 就得到十張單獨影像, 後續要轉換成放映檔則難度較高

Get Sequential Images

Number of Images: 3

Compute Exposure before Each Image

Time Interval:  As Short as Possible  
0 hour 0 min 2.000 sec

Place Images in an Image Sequence

Defer Image Processing/Display until Done

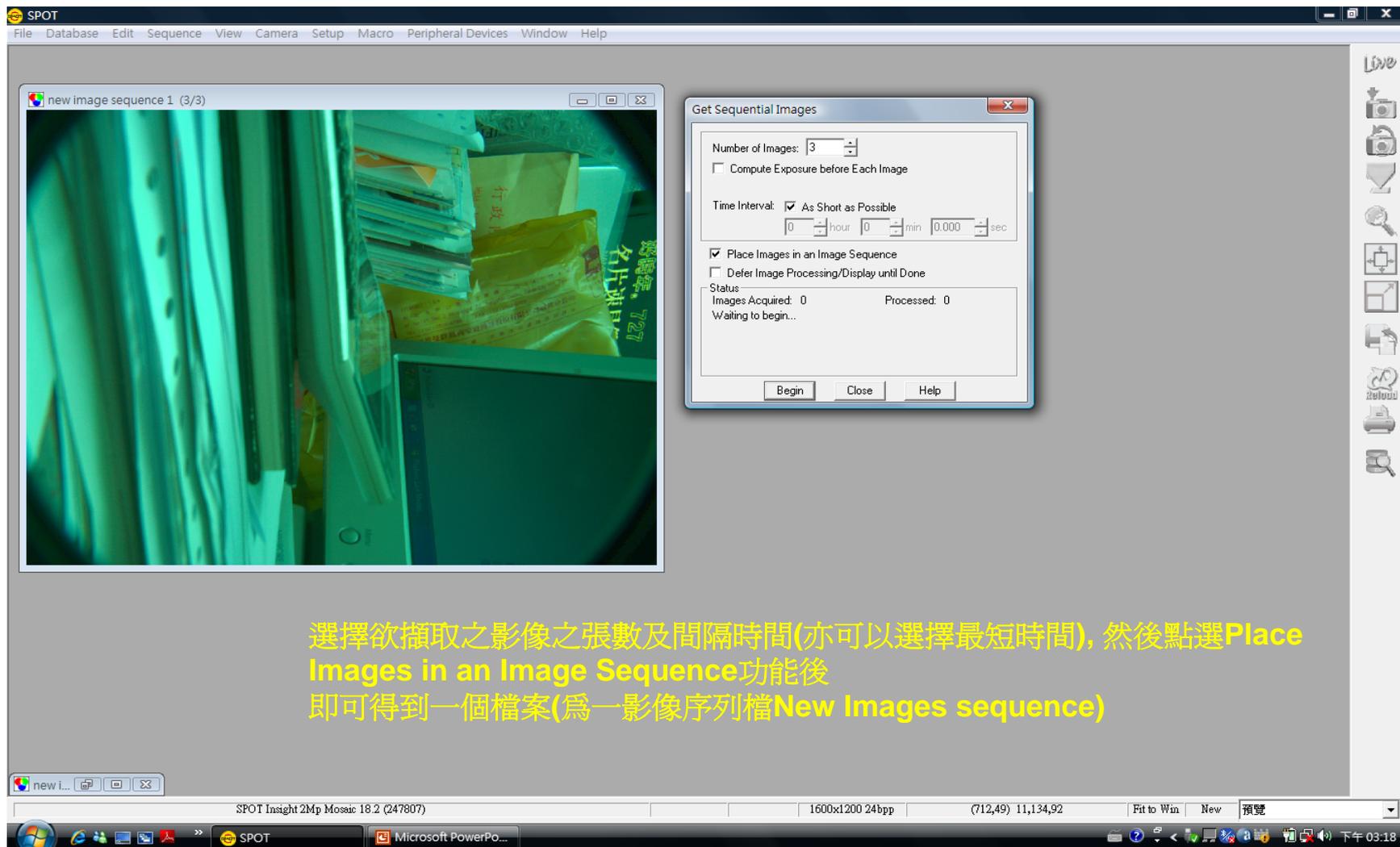
Status  
Images Acquired: 0      Processed: 0  
Waiting to begin...

Begin Close Help

SPOT Insight 2Mp Mosaic 18.2 (247807) 預覽

SPOT Microsoft PowerPo... 下午 03:15

# 動態擷取操作說明部分



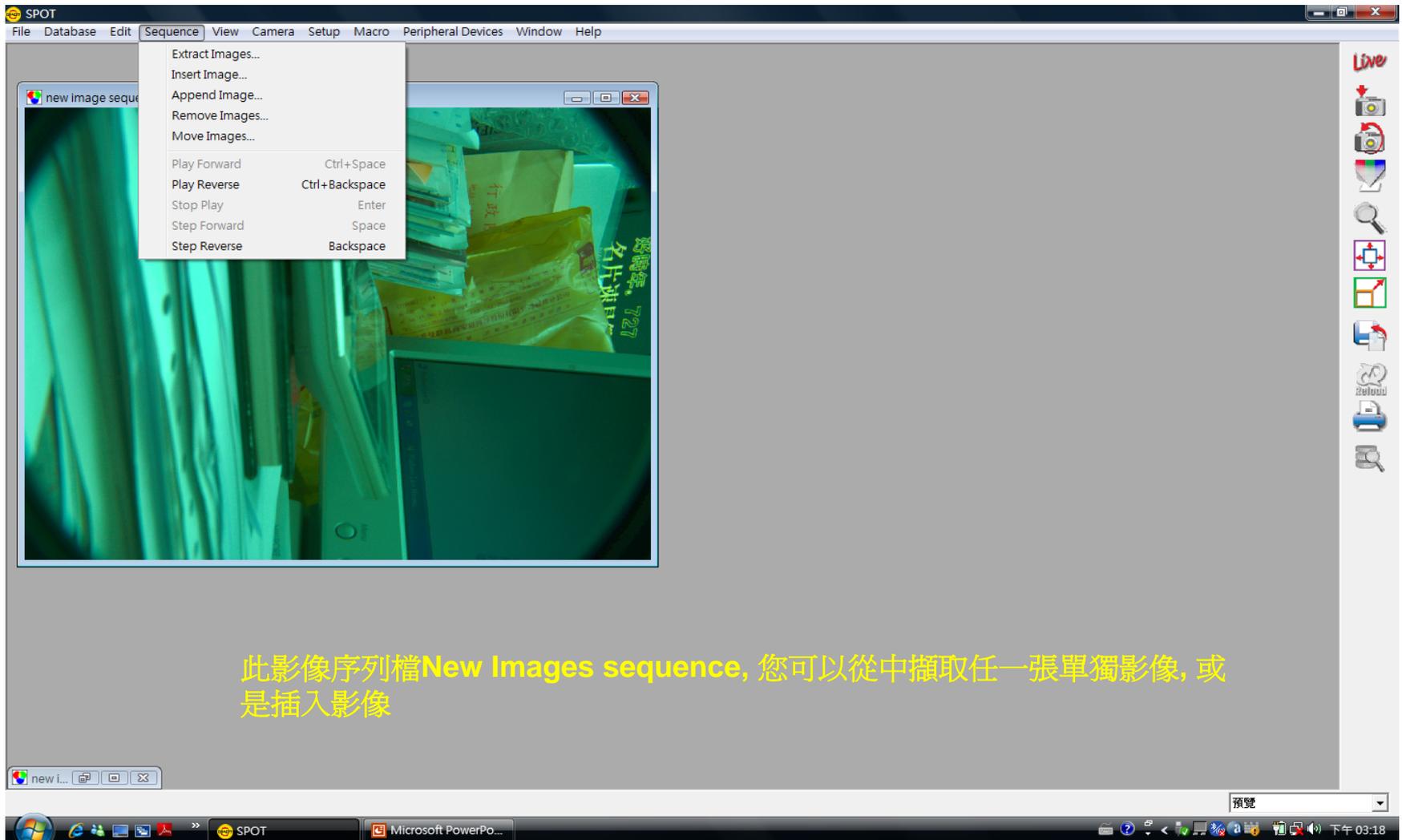
The screenshot displays the SPOT software interface. A window titled "new image sequence 1 (3/3)" shows a video frame of a document. Overlaid on this is the "Get Sequential Images" dialog box. The dialog box contains the following settings:

- Number of Images: 3
- Compute Exposure before Each Image
- Time Interval:  As Short as Possible (0 hour, 0 min, 0.000 sec)
- Place Images in an Image Sequence
- Defer Image Processing/Display until Done
- Status: Images Acquired: 0, Processed: 0, Waiting to begin...

Buttons for "Begin", "Close", and "Help" are visible at the bottom of the dialog box. The software's status bar at the bottom indicates "SPOT Insight 2Mp Mosaic 18.2 (247807)", resolution "1600x1200 24bpp", coordinates "(712,49) 11,134,92", and a "Preview" dropdown menu. The system tray shows the time as "下午 03:18".

選擇欲擷取之影像之張數及間隔時間(亦可以選擇最短時間), 然後點選**Place Images in an Image Sequence**功能後  
即可得到一個檔案(為一影像序列檔**New Images sequence**)

# 動態擷取操作說明部分



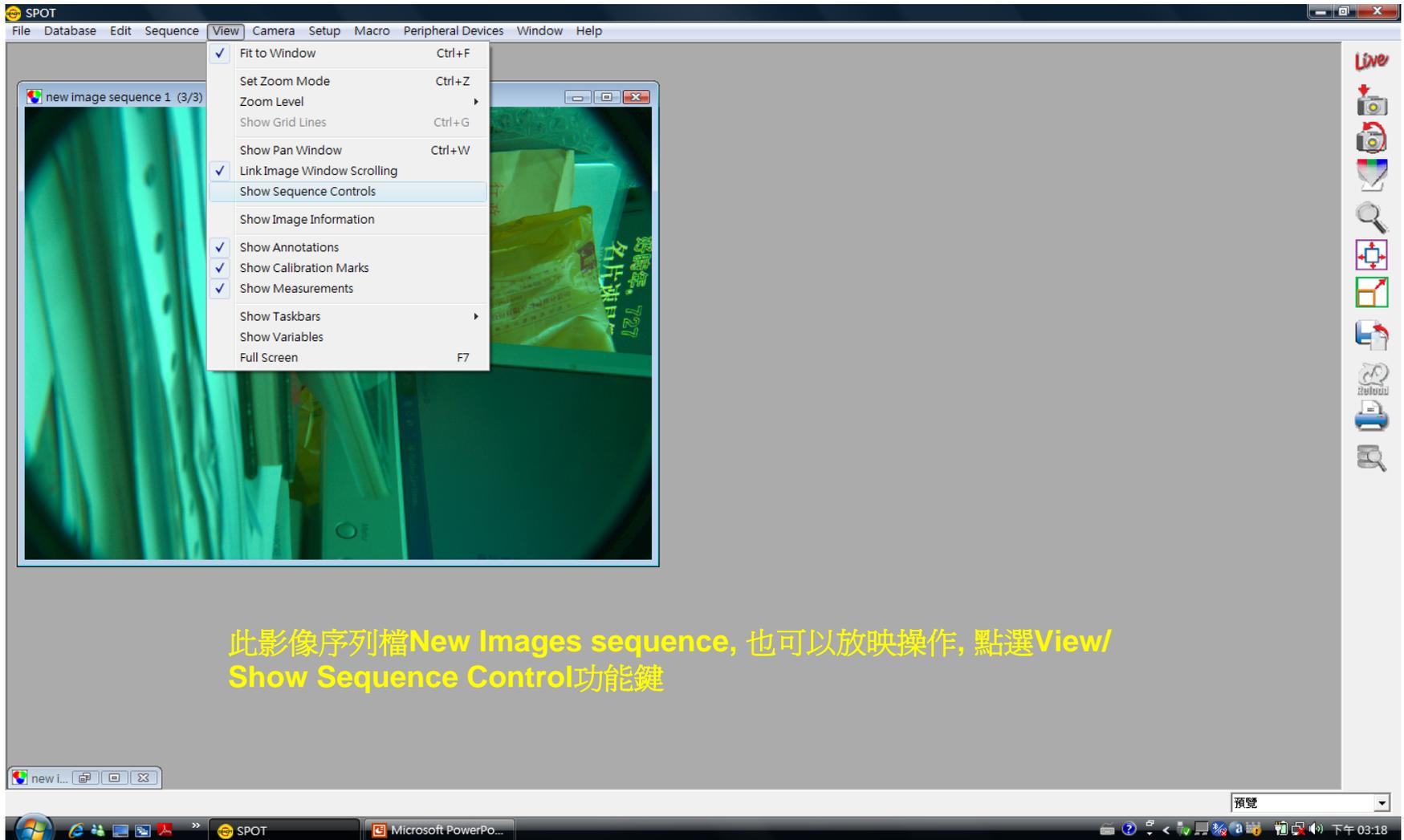
The screenshot displays the SPOT software interface. The main window shows a video sequence titled "new image sequence" with a context menu open over it. The menu options are:

- Extract Images...
- Insert Image...
- Append Image...
- Remove Images...
- Move Images...
- Play Forward (Ctrl+Space)
- Play Reverse (Ctrl+Backspace)
- Stop Play (Enter)
- Step Forward (Space)
- Step Reverse (Backspace)

The video content shows a scene with yellow and white papers, possibly a document or a book. The interface includes a menu bar (File, Database, Edit, Sequence, View, Camera, Setup, Macro, Peripheral Devices, Window, Help) and a toolbar on the right side. The taskbar at the bottom shows the SPOT application and Microsoft PowerPoint.

此影像序列檔New Images sequence, 您可以從中擷取任一張單獨影像, 或是插入影像

# 動態擷取操作說明部分



此影像序列檔New Images sequence, 也可以放映操作, 點選View/  
Show Sequence Control功能鍵

# 動態擷取操作說明部分

The screenshot displays the SPOT software interface. The main window shows a video preview of a cluttered desk with papers and a yellow envelope. An "Image Sequence Controls" dialog box is open, featuring playback navigation buttons (stop, previous, play, next, first, last), an "Index Number" section with "First: 1", "Current: 3", and "Last: 3", and "Play Options" including "Interval: 150" (msec/sec), "At End: Stop/Restart/Reverse", and "Close/Apply/Help" buttons. A vertical toolbar on the right includes a "Live" button and various tool icons. The Windows taskbar at the bottom shows the SPOT application, a Microsoft PowerPoint window, and the system clock at 03:19.

new image sequence 1 (3/3)

Image Sequence Controls

Index Number  
First: 1 Current: 3 Last: 3

Play Options  
Interval: 150 msec sec  
At End: Stop Restart Reverse  
Close Apply Help

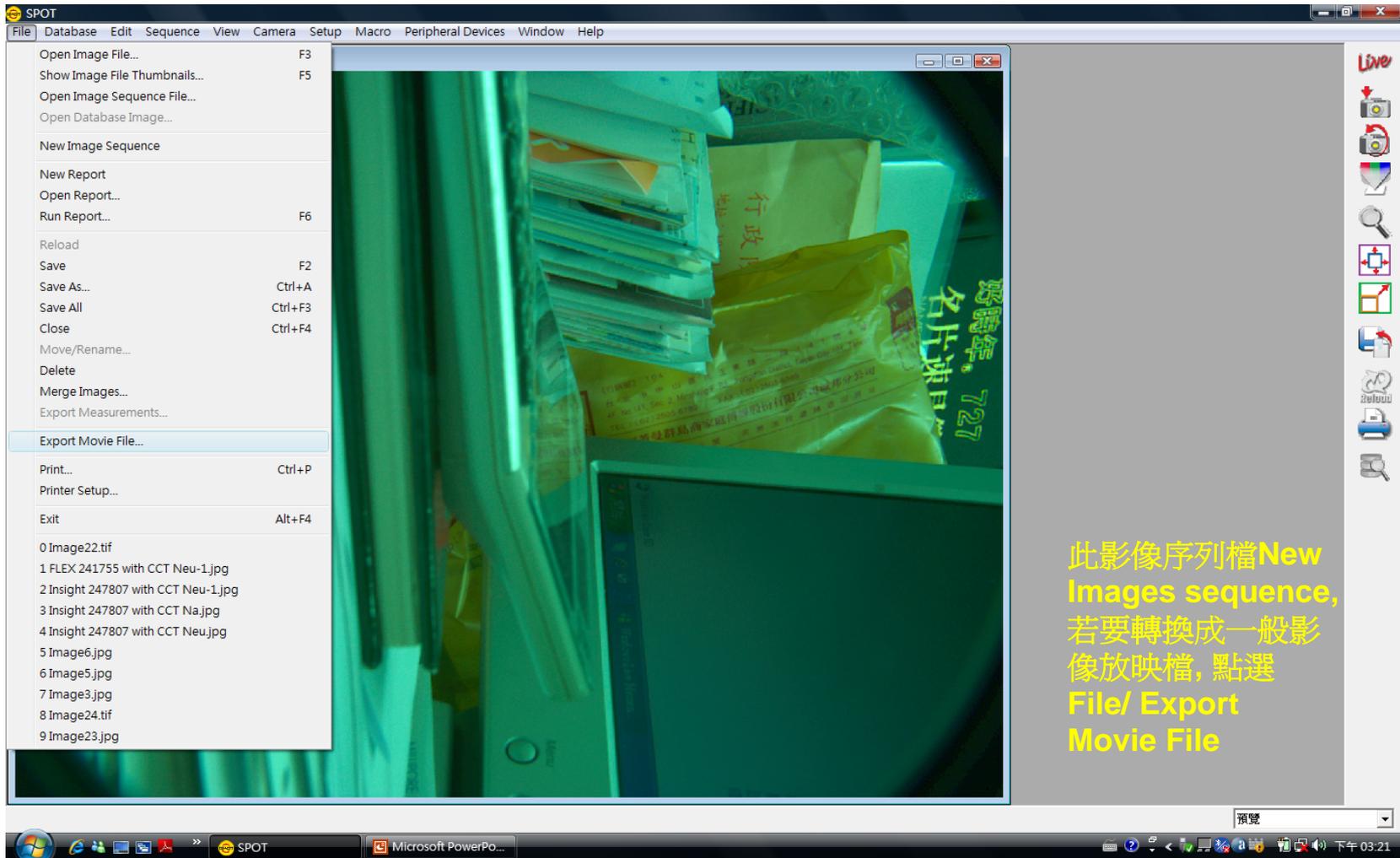
即出現放映功能鍵

new i...

SPOT Insight 2Mp Mosaic 18.2 (247807) 1600x1200 24bpp (1490,365) 2,134,96 Fit to Win View 預覽

SPOT Microsoft PowerPo... 下午 03:19

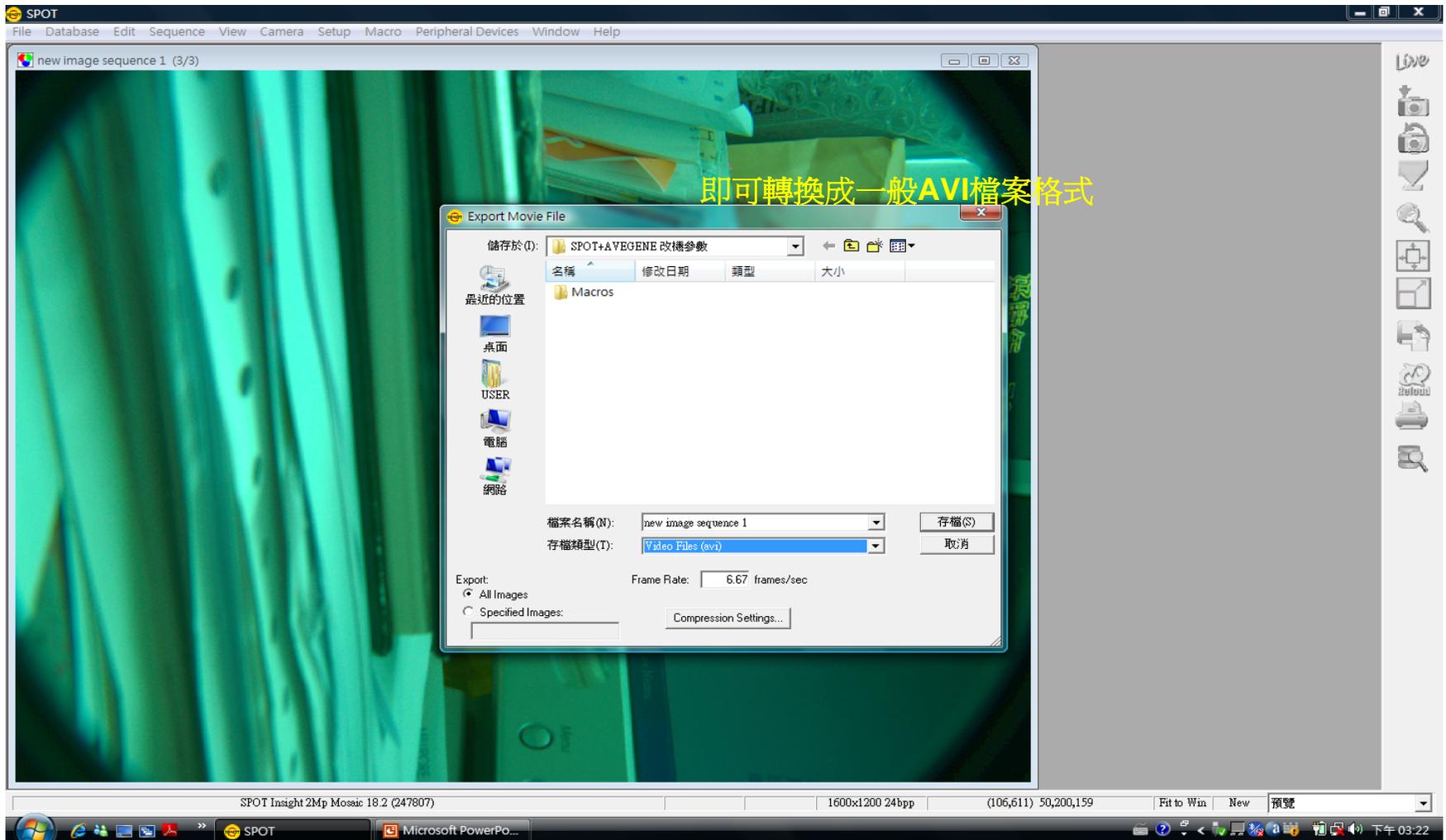
# 動態擷取操作說明部分



The screenshot shows the SPOT software interface. The 'File' menu is open, and 'Export Movie File...' is highlighted. The main window displays a video frame of a desk with papers and a yellow envelope. The sidebar on the right contains various tool icons. A text box on the right explains the 'Export Movie File' option.

此影像序列檔New Images sequence, 若要轉換成一般影像放映檔, 點選 File/ Export Movie File

# 動態擷取操作說明部分



# 注意

- 開機順序最好是先打開相機電源，再打開控制軟體【相機電源請使用穩定電壓, 確保相機壽命】
- 拍攝時一定要注意顯微鏡的光路是否轉換到拍攝狀態
- 上一次所作的所有的參數設置都會被電腦默認保留，所以拍攝前最好察看一下
- 請確定濾光鏡的位置是否正確（明視野時使用**BF**, 或是顯微鏡**phase** 環選擇等等）

# 常見問題及解決方法

- 螢幕提示:**Exposure time is too short .....**
  - 原因:光線太強
  - 解決:將光源調弱即可。或使用檔光片等。
- 螢幕提示 **image too dim**
  - 原因可能是光線太暗，將光強調亮即可；也可能是由於沒有將顯微鏡的光路轉換到拍攝狀態。
- 一直計算曝光時間，不進行其他操作
  - 原因：顯微鏡的目鏡與VIDEO埠的切換拉片沒有切換，相機沒有感光
  - 或是由於拍攝時沒有將光路轉換到拍攝狀態
  - 解決：將光路切換即可。

## ■ 偏色嚴重（整幅圖片偏黃或偏藍）

- 原因：白平衡不正確
- 解決：作一次自動白平衡。具體步驟如下：
  - 點擊**White balance**圖示；按照螢幕提示，移動玻片，使視野中只有空白區；點擊**OK**
  - 軟體將自動計算白平衡，並提示你確認將所得到的白平衡存儲到哪一個拍攝程式組中去；選定一個拍攝程式組，點擊**OK**；（白平衡只針對透射光顯微照相參數有效）

## ■ 圖像模糊

- 原因：聚焦不清楚
- 解決：用**FOCUS**或**LIVE**功能來聚焦。
  - 點擊**Focus**或**LIVE**圖示，畫面上出現一個矩形框和一個對話方塊
  - 點擊矩形框將其拖到畫面上比較容易看出聚焦效果的區域或自己感興趣的區域；
  - 在對話方塊內選定用來輔助聚焦的濾鏡的顏色（不同的顏色會影響畫面更新的速度。比如拍攝綠色螢光時，使用綠色濾鏡會獲得較快的更新速度）
  - 在對話方塊內點擊**Begin**，轉動顯微鏡的調焦旋鈕，同時觀察螢幕上的聚焦結果；聚焦滿意時，點擊**Stop**；再拍攝圖像

## ■ 拍彩色圖像時顏色顯示失真，缺少層次

- 原因：顯示器色彩顯示模式錯誤
- 解決：進入Windows的控制面板，將顯示器設置設為24位元彩色或更高。

## ■ 打開軟體時螢幕提示得不到相機的回應，打開後多數圖示變灰，

- 原因：打開軟體時相機電源沒有打開。
- 解決：打開電源，點擊Camera功能表，選Initialize，軟體將自動和相機建立聯繫。圖示恢復正常顯示。

## ■ 相機不工作

- 原因：可能電源保險絲燒斷 (注意電源燈源是否發亮或閃爍)
- 解決：更換保險絲即可 (請工程師的認可)

## ■ 汞燈點不亮

- 原因：1，汞燈使用壽命以完，2，由於汞燈啓動的電壓很高，有時插線板上連接了過多的設備，造成電壓過低，引起故障。
- 解決：更換燈泡，將汞燈電源使用單獨的插線板

- 拍到的畫面範圍和目鏡視野相比太小或不一致
  - 原因：只使用了局部晶片來成像
  - 解決：點擊**Setup**功能表，選**Image setup**，在成像區域選擇部分，將晶片成像區域設成更大的數值或選擇**Full chip**。
  
- 想修改某個拍攝協議，卻發現出現的對話方塊變灰而無法修改
  - 原因：使用了鎖定協定的功能
  - 解決：點擊對話方塊右下角**Lock**前面的點選框，框內的勾號消失，即可對各項參數進行修改了。
  
- 啓動軟體時，提示驅動有錯誤
  - 原因：錯誤的關機，使得驅動程式部分丟失。
  - 解決：將原驅動卸載，重新安裝即可