

NATIONAL FORUM

IOL Revolution

HIGH QUALITY VISION

DIRETTORE SCIENTIFICO: GASPARE MONACO
RESPONSABILE SCIENTIFICO: GIANLUCA RUBIOLINI

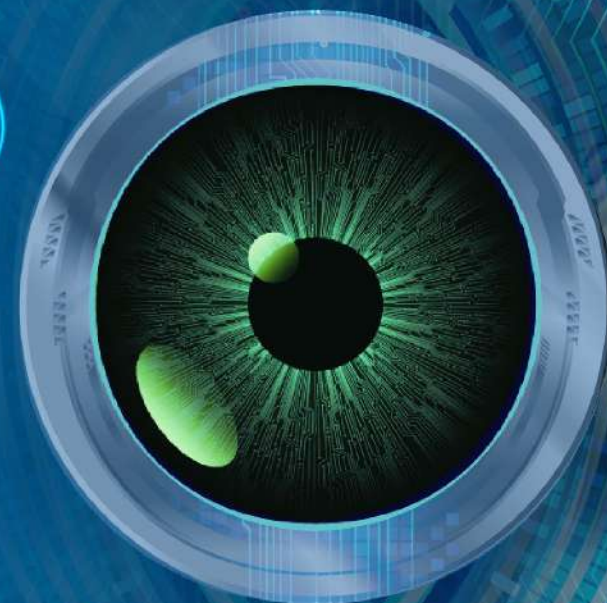
02 / 03
OTTOBRE 2026



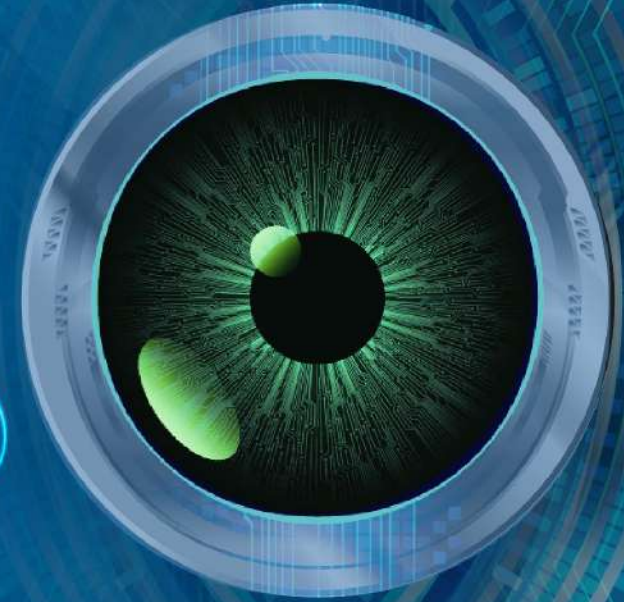
MILANO
SHERATON MILAN
SAN SIRO



IOLREVOLUTION.IT



NATIONAL FORUM
IOL Revolution
 HIGH QUALITY VISION



i î ì î Ġ Ĩ È Ğ Ĥ Ė

“Ciò che non si vede può essere dannoso”

~ĖŹø = FApA AŹÌ : Πi ∞

RESPONSABILE U.O. OCULISTICA
 CLINICA STABIA CASTELLAMMARE DI STABIA

CONSULENTE CHIRURGIA REFRAATTIVA
 SAN PAOLO VISION CARE, NAPOLI

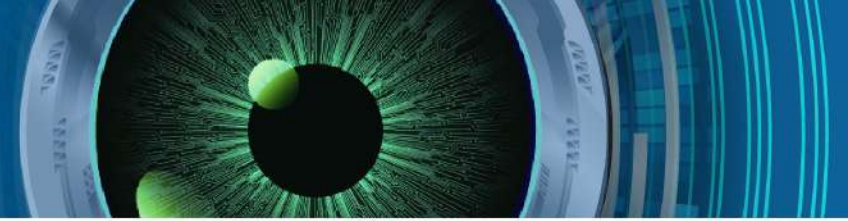
CMM DIAGNOSTICA CAVA DE TIRRENI



THE DARK SIDE OF THE CORNEA

· Vedere di più significa vedere tutto?

Non tutto ciò che esiste è necessariamente
visibile dal nostro punto di osservazione

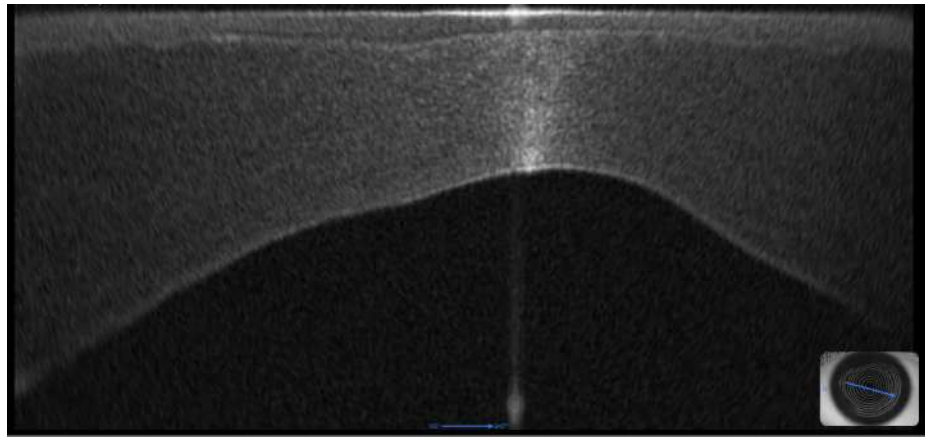


ECUG'03 "□ Gevcuk'r quv'RTM##

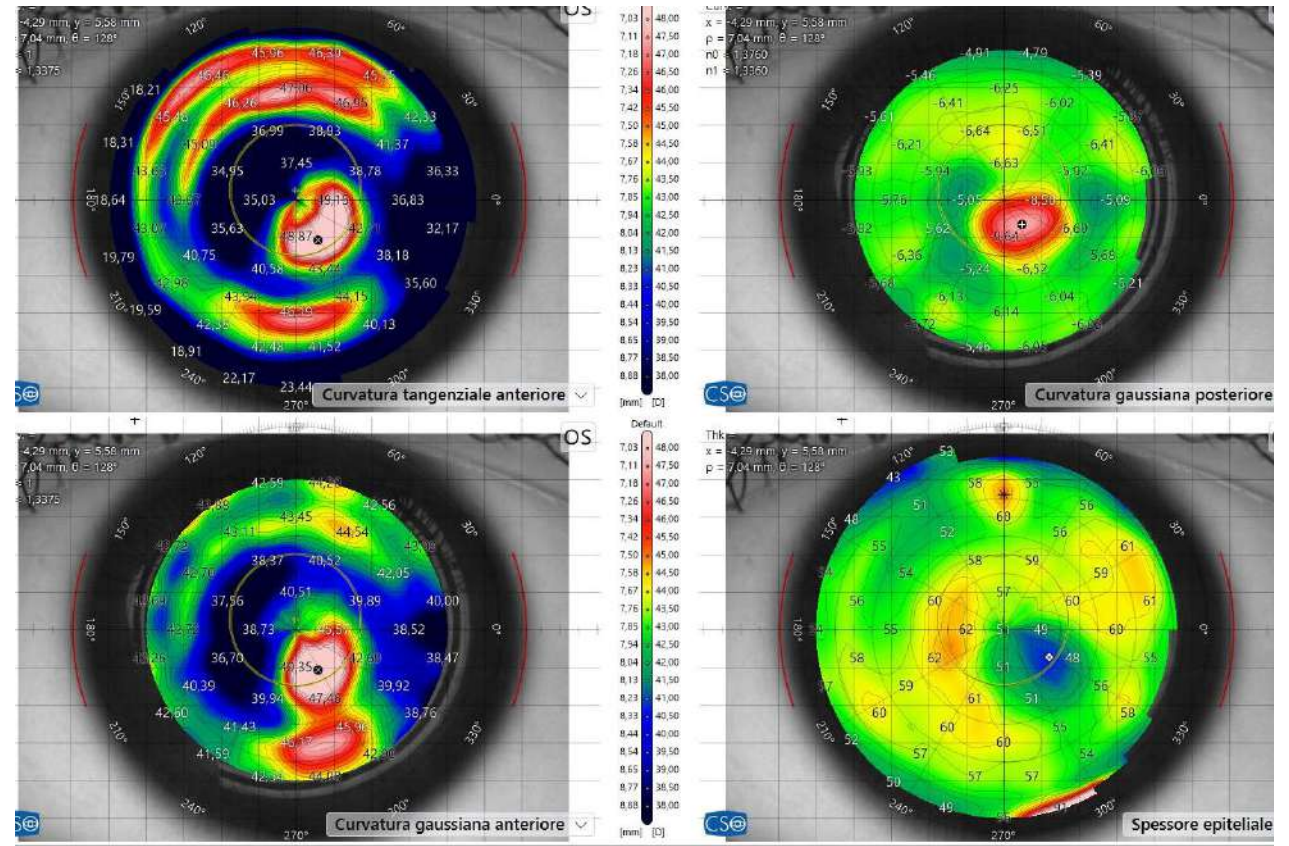
Maschio 23

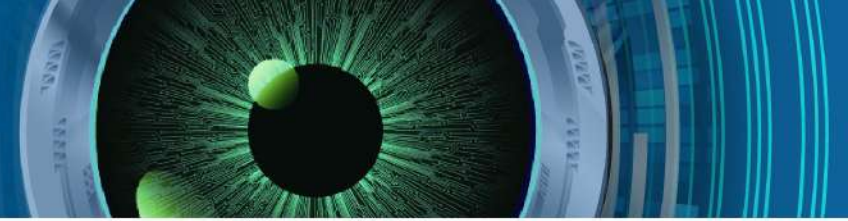
PRK miopica in OO tre anni prima

Difetto Trattato -6.50 sf

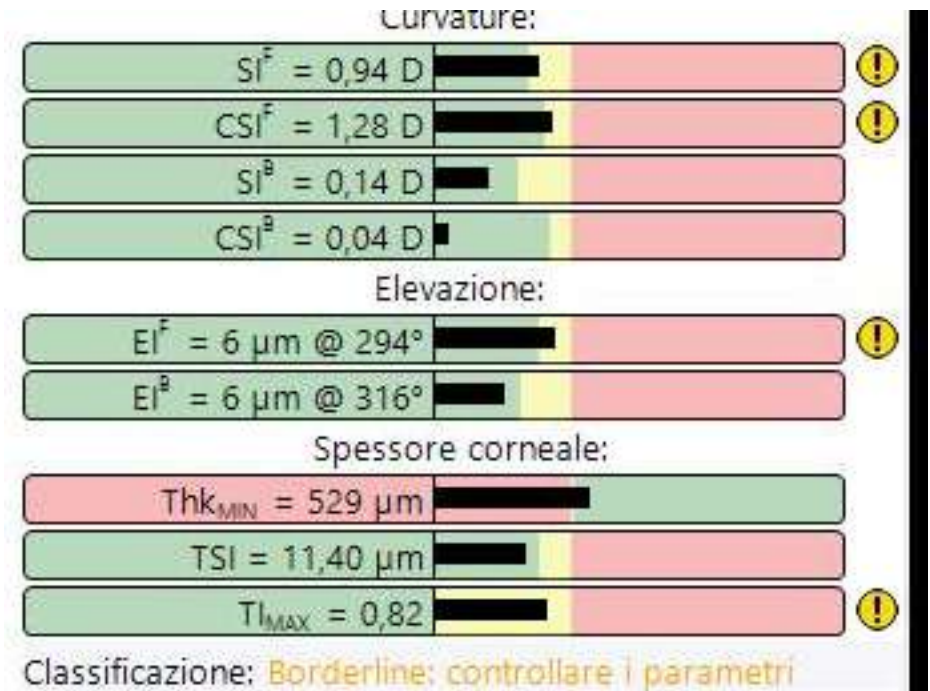
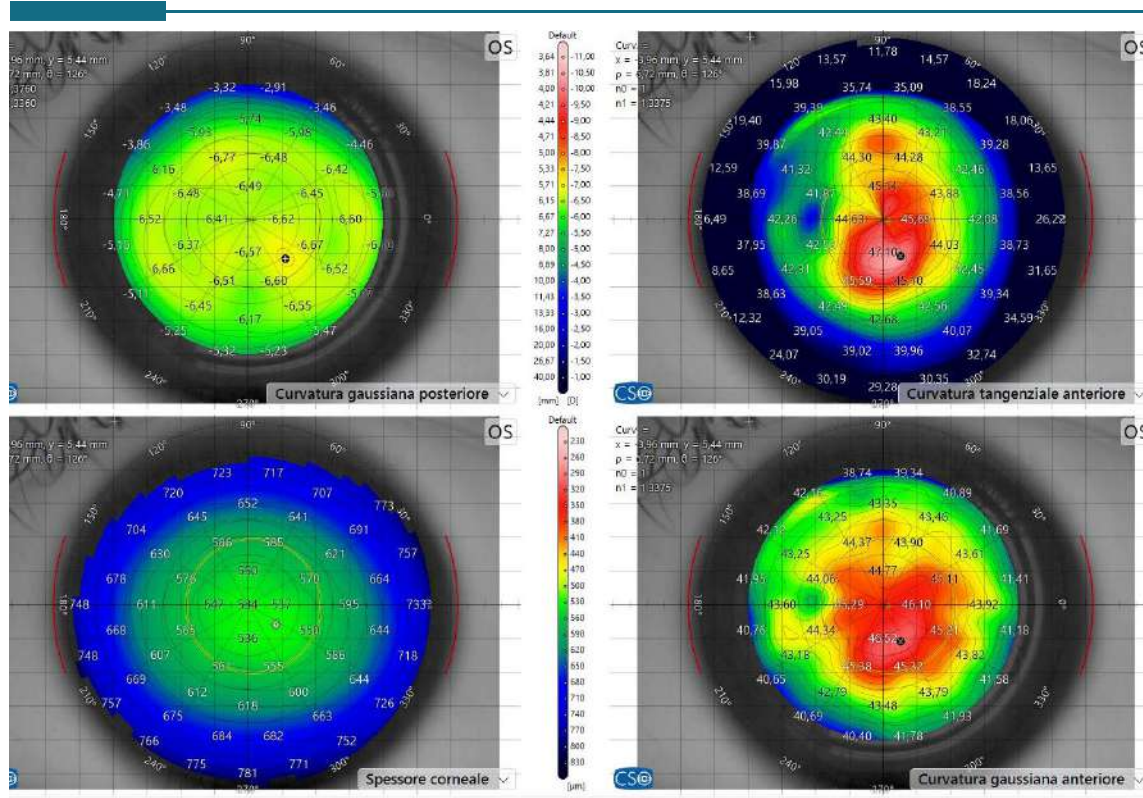


Equc"pqp"cddkco q xkuvqA





CASE #1 —Ectasia post PRK!!!



Cosa avremo potuto vedere?

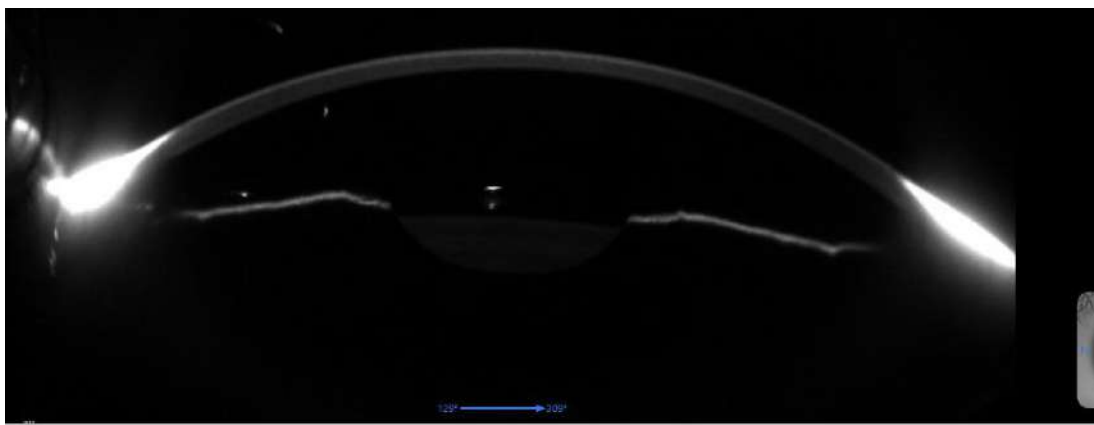


DIFFERENTI TECNOLOGIE. DIFFERENTI DOMANDE.



La tomografia descrive la forma. L'OCT aggiunge la sezione e il dettaglio tissutale.

SIRIUS / SCHEIMPFLUG



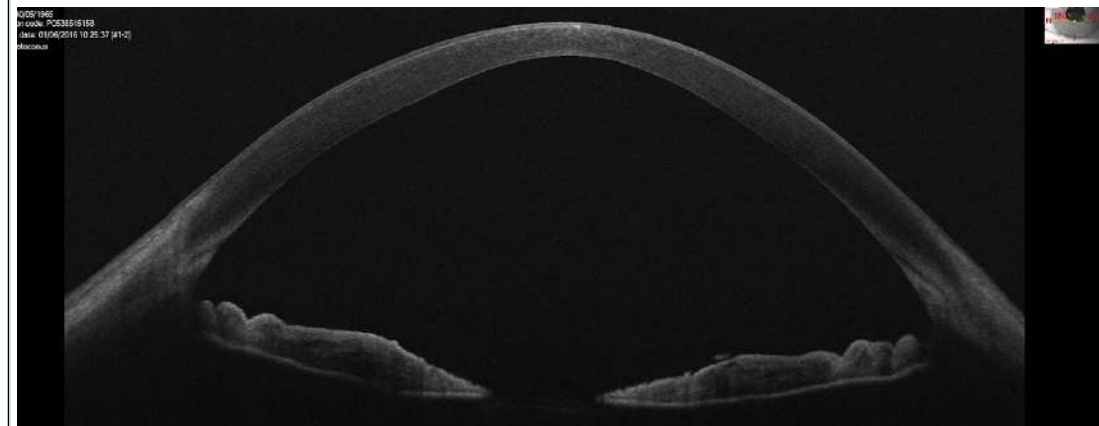
U'qvcv'pi "Uej glo r hwi
 eco gtc"- "Rwelfq
 vqr qi ter j {

U'cpvgtkqt"cpf "r quvgtkqt
 eqtpgcrluwt hcegu

U'grgxcv'qp"cpf
 r cej {o gvt {"b cr u

• morphology and
 screening

O U/5; "I"CU/QEV



• spectral-domain OCT
 U'etquu/ugev'kpcn
 cpvgtkqt/ugi o gpv
 lo ci lpi

U'gr kj gicrl'cpf "uwtqo cn
 vj kempguu"b cr r lpi

U'pvgthceg"cpf
 vkuwg"f gvc kn



Luigi Conti Oculista



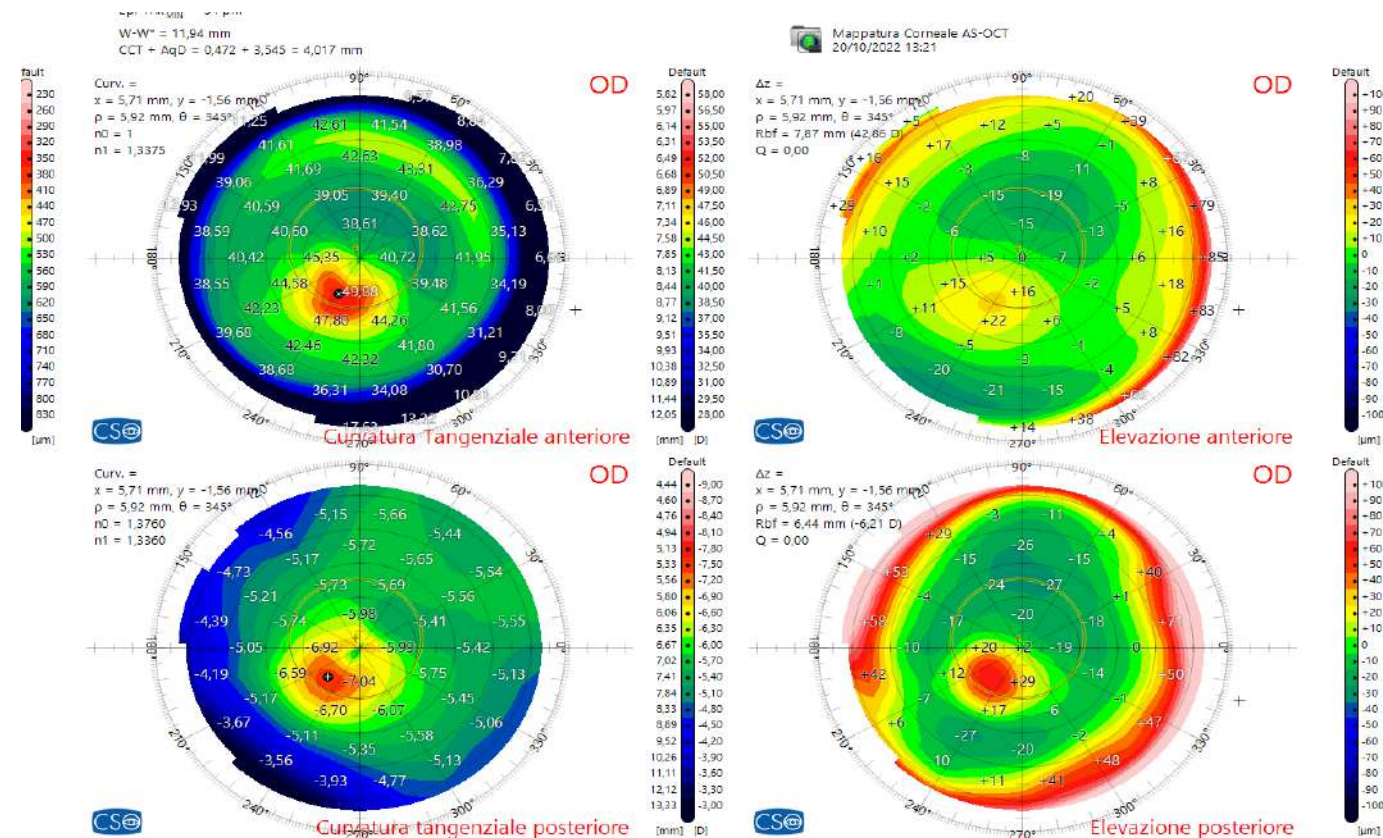
CCRI
 club dei chirurghi
 refrattivi italiani



ECUG 1/4 " □ Gevukc 'r quv'NCURM##

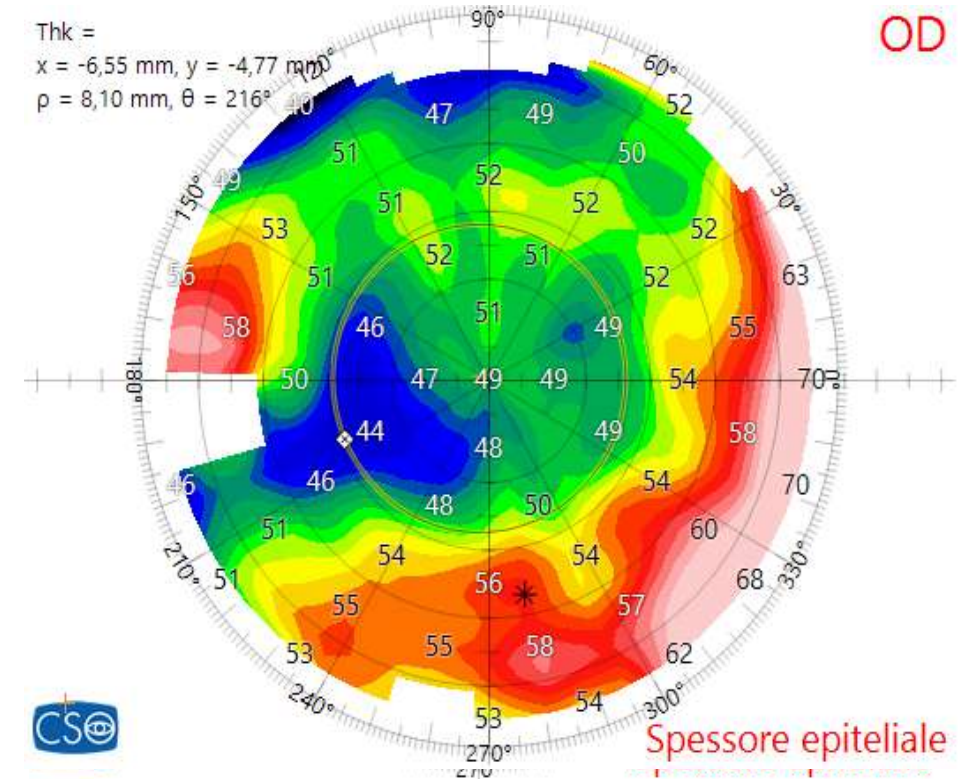
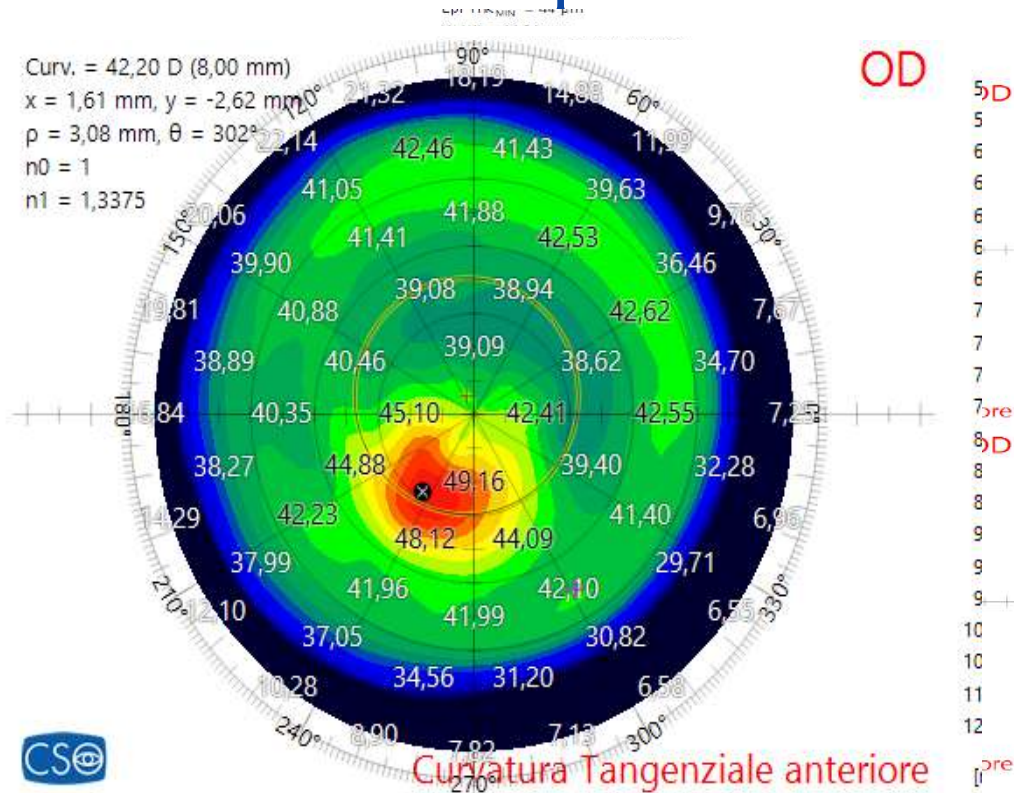
- Maschio 21
- Lasik miopica in OO quattro anni prima
- Difetto Trattato -3,50sf in OO

Cosa non abbiamo visto?



Courtesy by M.Mammone, MD

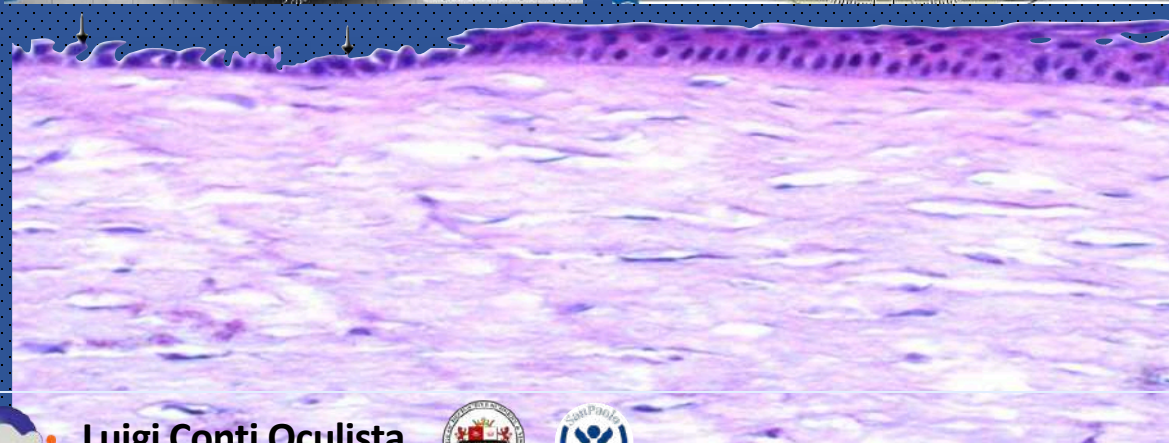
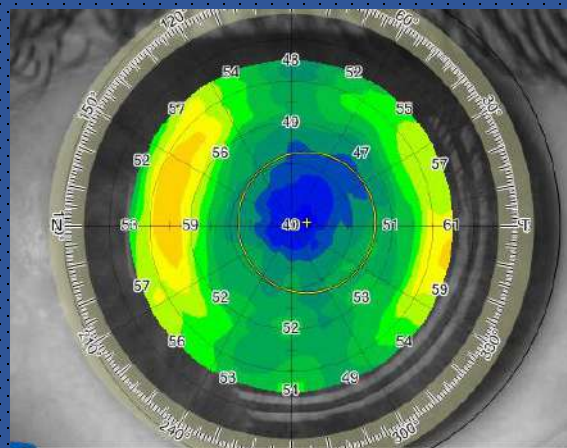
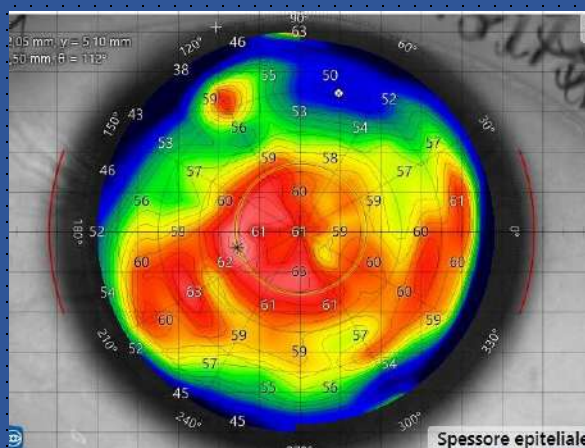
CASE #2 —Ectasia post LASIK!!!



Cosa non abbiamo visto?

Courtesy by M.Mammone, MD

LA AS-OCT TOMOGRAFIA CI HA PERMESSO DI VEDERE OLTRE mappatura epiteliale: leggere oltre la superficie (NUOVO TOOL)

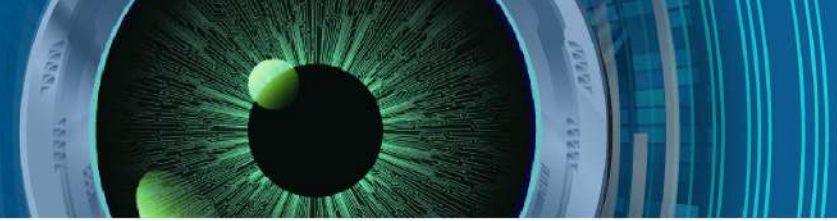


COMPENSAZIONE EPITELIALE

Si **assottiglia** sugli ispessimenti stromali (hills)

Si **ispessisce** nelle depressioni (valleys)

Maschera le irregolarità posteriori e stromali

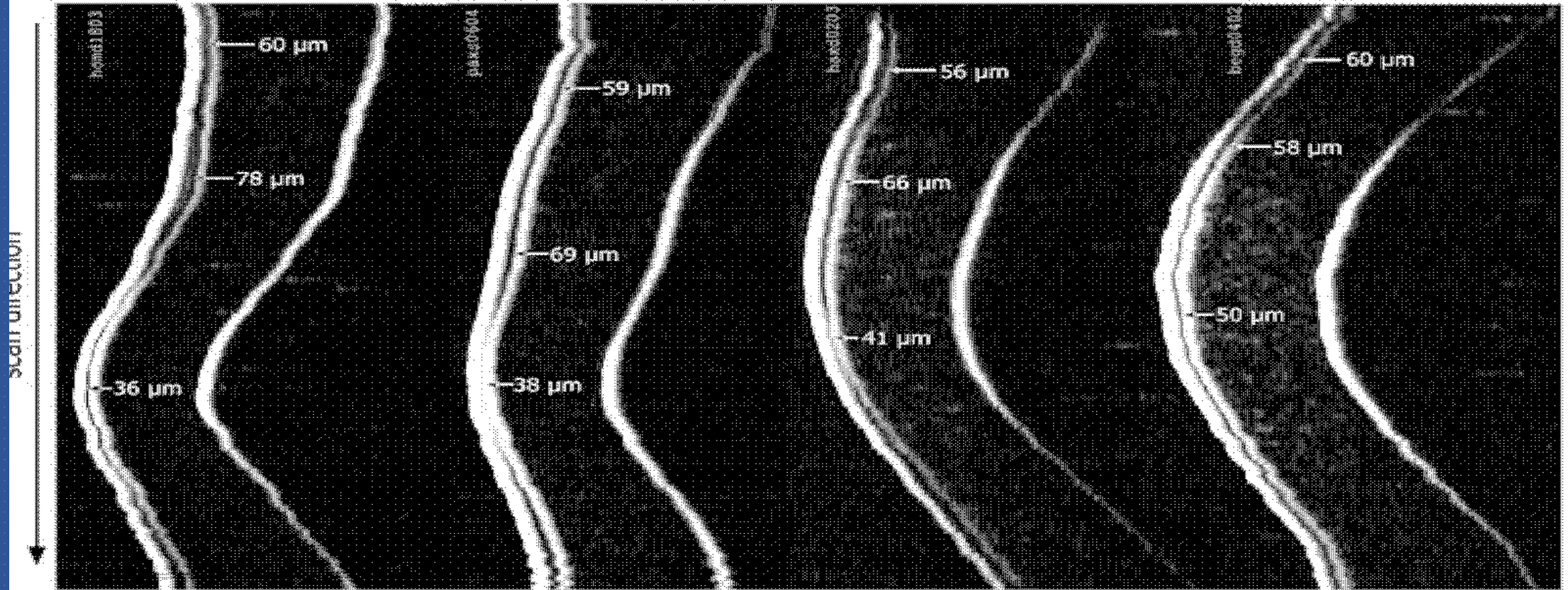


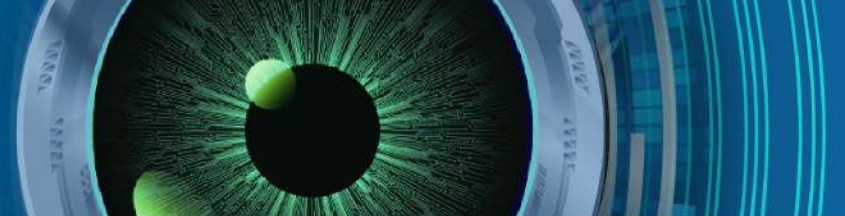
Very Severe (OD)

Severe (OS)

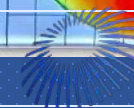
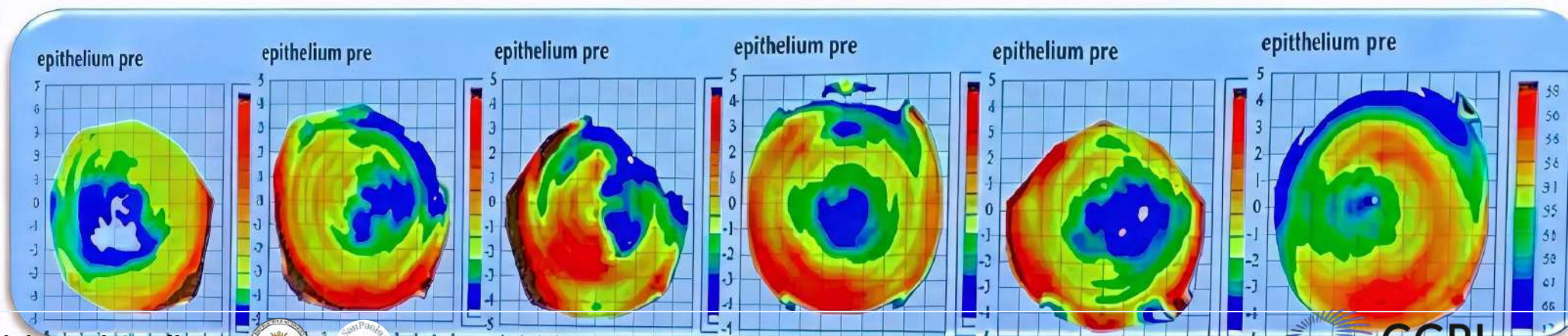
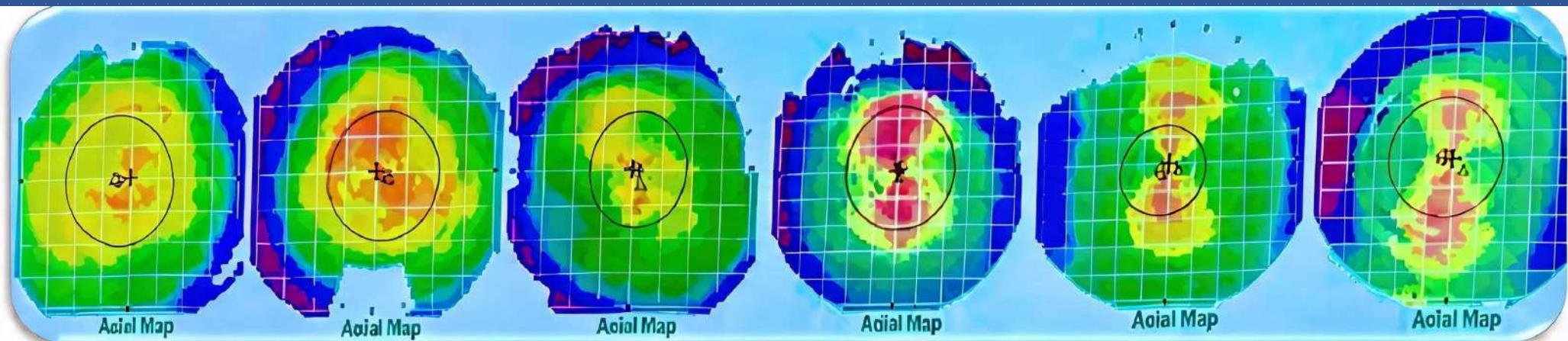
Moderate (OD)

Mild (OD)

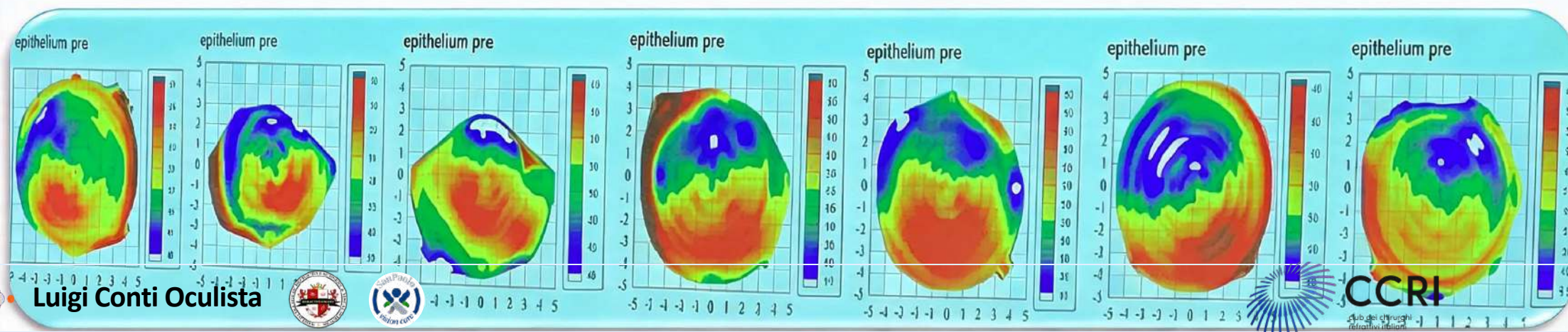
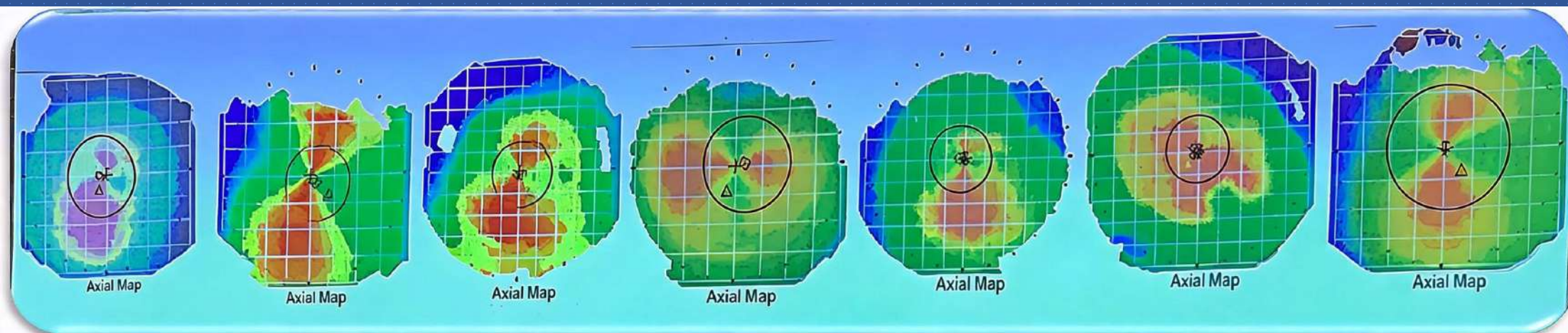




Evitare Falsi Negativi = Evitare Ectasie



Evitare Falsi Positivi = Più Candidati





CASE #3 —Una cornea ectasica???

Giovane candidato alla chirurgia refrattiva

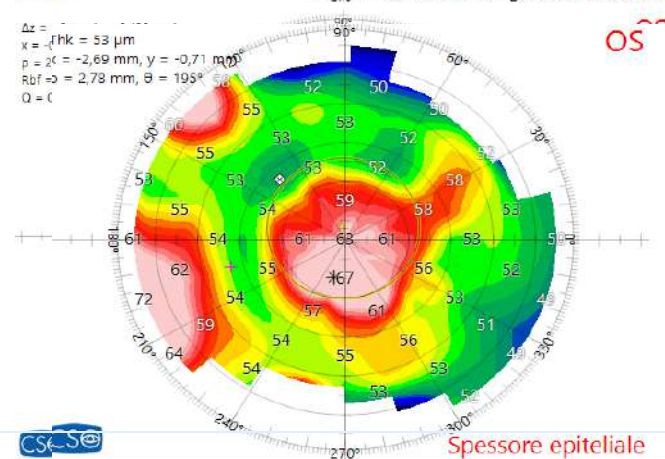
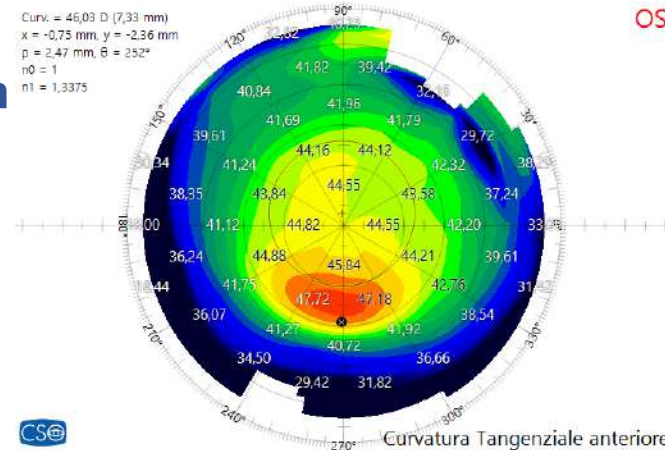
Rctco gvkpk krik

- ✓ /5.72?/2.97"cuug"3: 2
- ✓ Rcej ko gvk<767"o kctqp"
- ✓ Tomografia: epitelio e spessore corneale disomogeneo, astigmatismo asimmetrico, No alterazione elevazione post
- ✓ Indici dello screening cheratocono normale

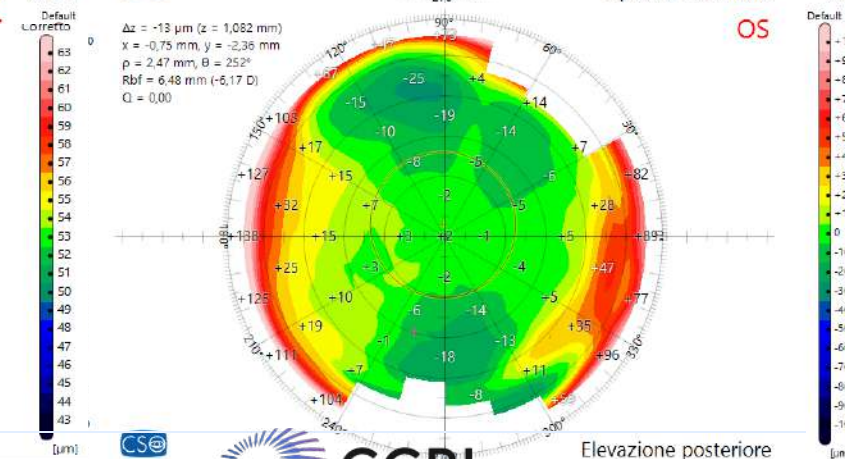
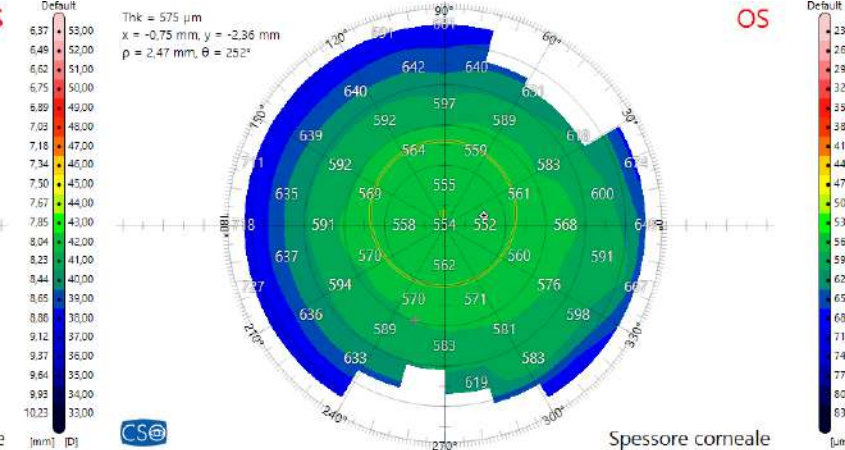
Lo operereste?

WARPAGE

Tomografia pre-op



Spessore epiteliale





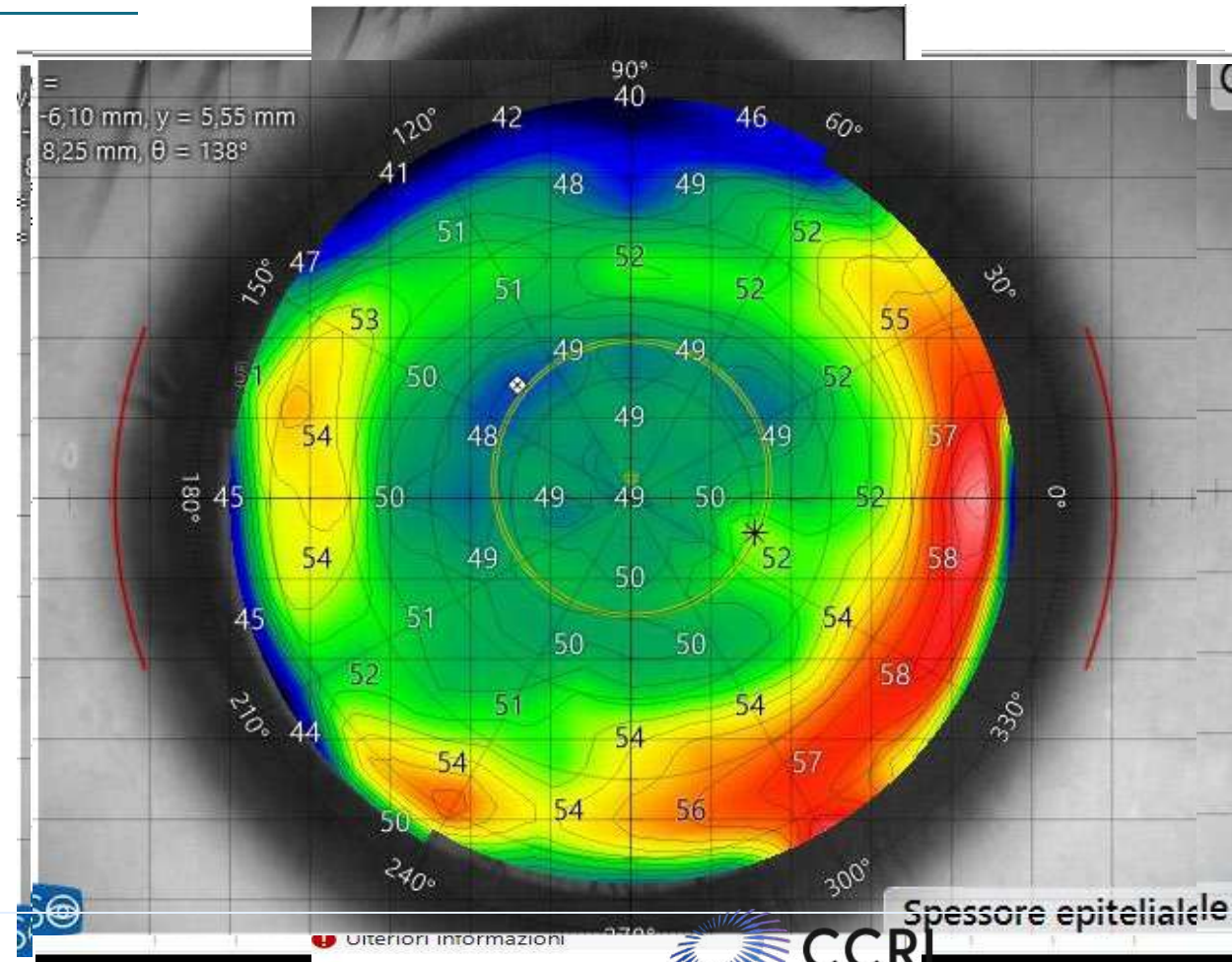
ECUG%6"□ Qi pkequc ugo dtc pqto cmg###

Giovane candidato alla chirurgia refrattiva

Parametri iniziali

- ✓ -4,50=-0,75 asse 180
- ✓ Rcej ko gvtk<"728"o letqp"
- ✓ Tomografia: epitelio e spessore corneale omogeneo, astigmatismo asimmetrico, CSI e Elf Appena mossi. No alterazione elevazione post
- ✓ Indici dello screening cheratocono bordenline

Gngi kdkng r gt"NXE A"

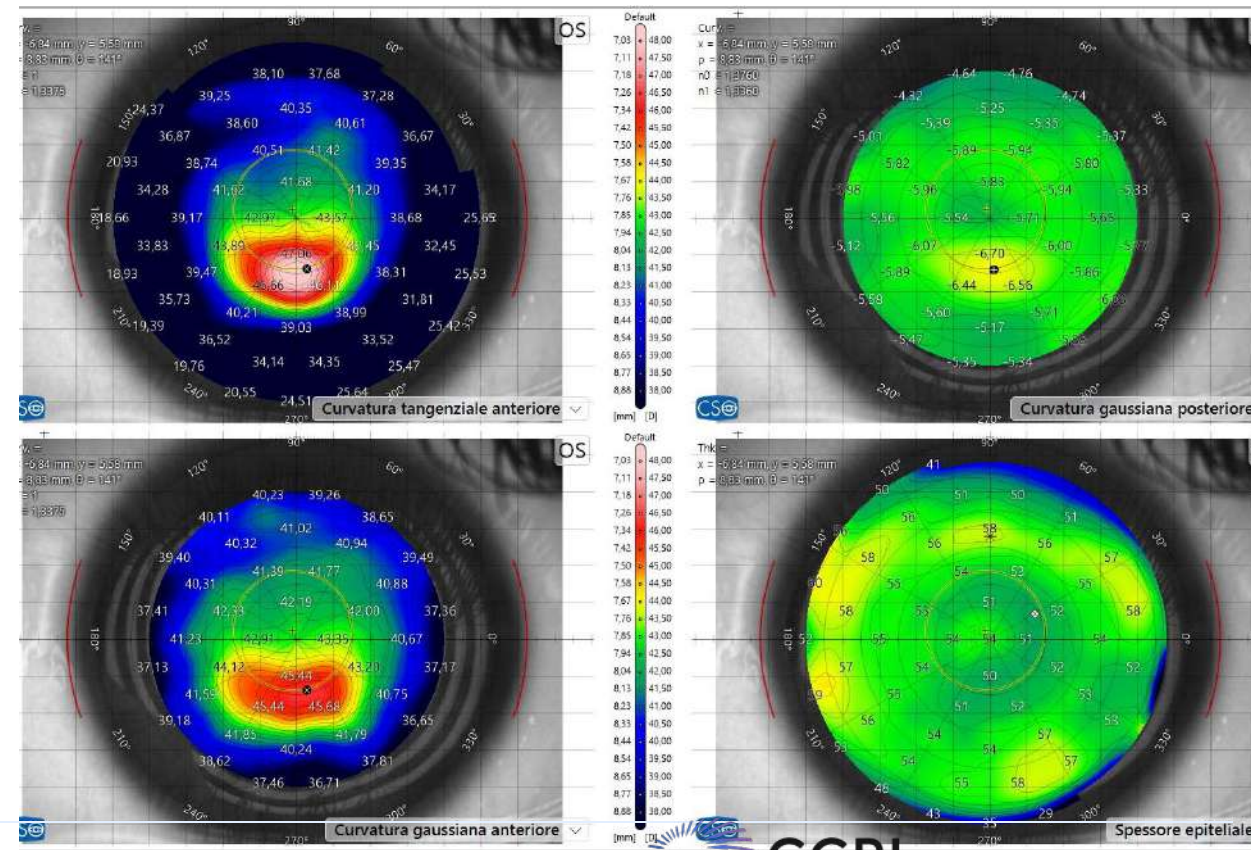


ECUG%6"□ Qi pkequc ugo dtcxc pqto cng###

Giovane candidato alla chirurgia refrattiva

Parametri iniziali

- ✓ -4,50=-0,75 asse 180
- ✓ Rcej lo gvtk<728"o letqp"
- ✓ Tomografia: epitelio e spessore corneale omogeneo, astigmatismo asimmetrico, CSI e Elf Appena mossi. No alterazione elevazione post
- ✓ Indici dello screening cheratocono bordenline



ECUG 7" □ Qi pkequc ugo dtc pqto cmg###

Giovane candidato alla chirurgia refrattiva

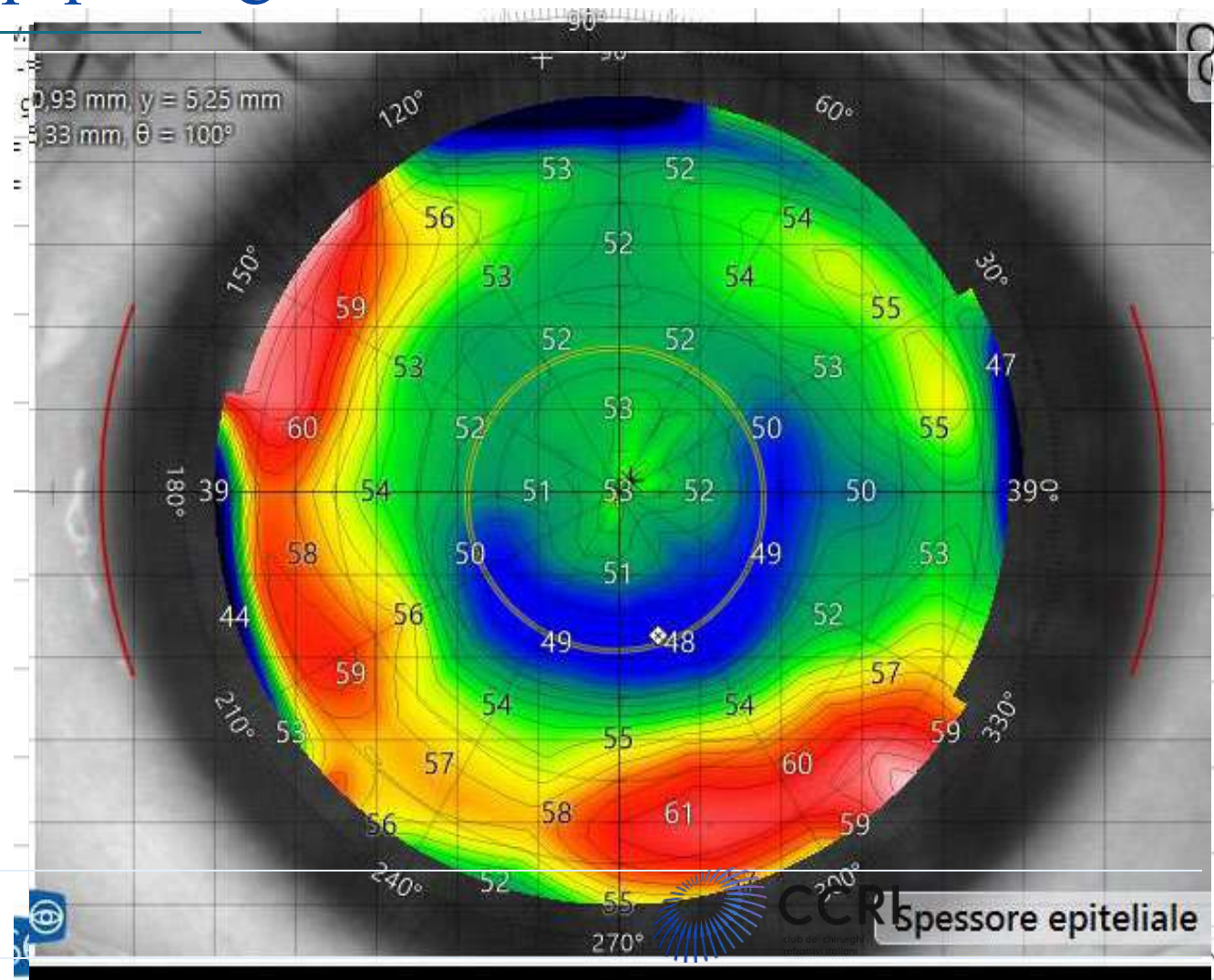
Parametri iniziali

- ✓ -2,50=-0,75 asse 180
- ✓ Pachimetria: 487 micron
- ✓ Vqo qi tchc <gr kgrkq g'ur guuqtg eqtpgcrg
 qo qi gpgq."cuvki o cvkuo q cuko o gvkq."pqp"
 ugi pkf kgrxc| kpg cpvgtkqtg g'r quvgtkqtg
- ✓ Indici dello screening cheratocono normali

Gngi kdkng r gt "NXE A"



Luigi Conti Oculista



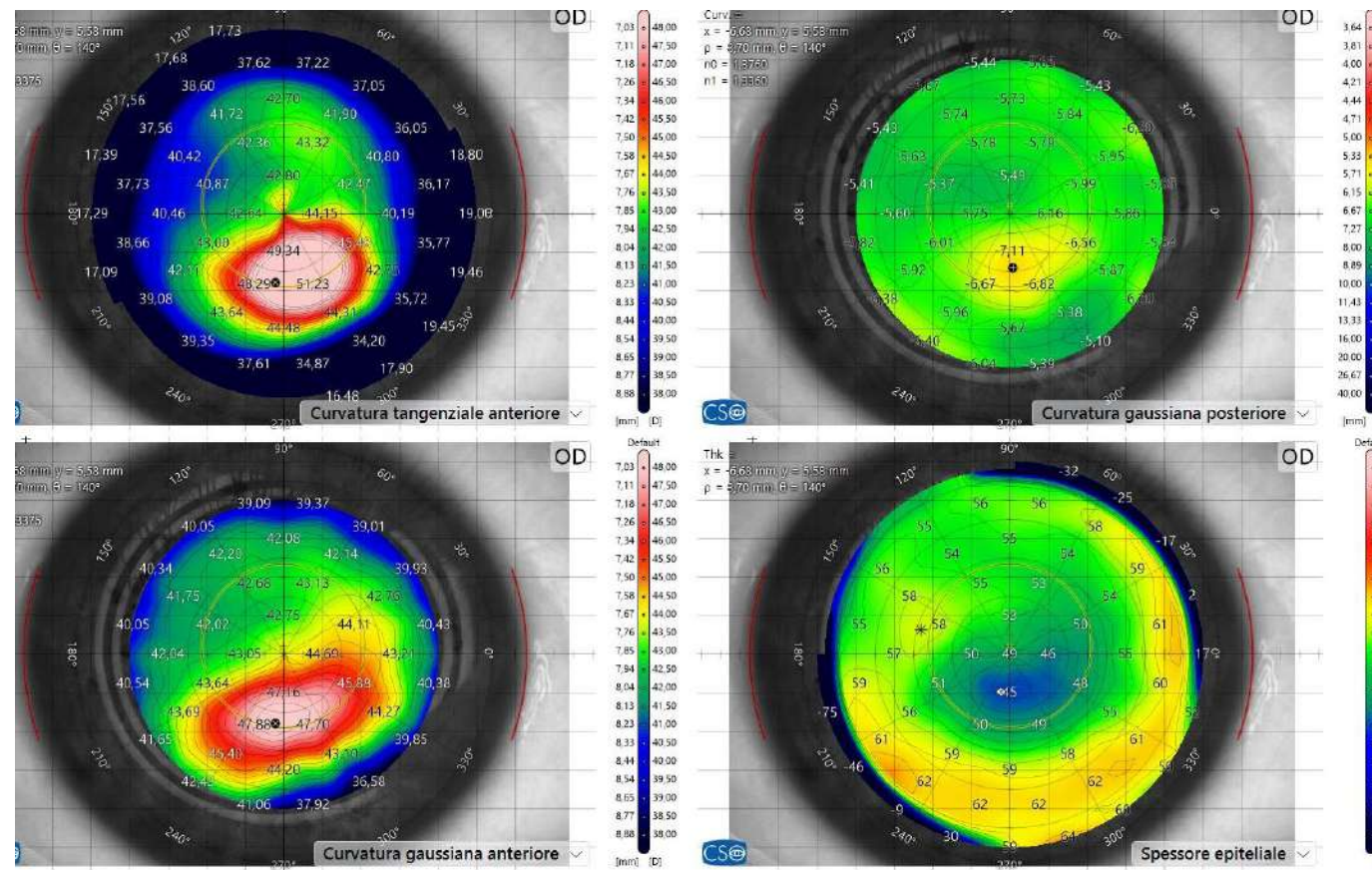


ECUG%7 "□ Qi pkequc ugo dtcxc pqto cng###

Giovane candidato alla chirurgia refrattiva

Parametri iniziali

- ✓ -2,50=-0,75 asse 180
- ✓ Pachimetria: 487 micron
- ✓ Vqo qi tchlc <gr kgrkq g'ur guuqtg eqtpgcrg
qo qi gpgq."cuvki o cvkuo q cuko o gvkeq."pqp"
ugi pkf k'grxc| kpg cpvgtkqtg g'r quvgtkqtg
- ✓ Indici dello screening cheratocono normali





THE DARK SIDE OF THE CORNEA

Vedere di più significa vedere tutto?



5 CENTRI

APPLICAZIONI DELL'AS-OCT NELLO SCREENING DI ECTASIE

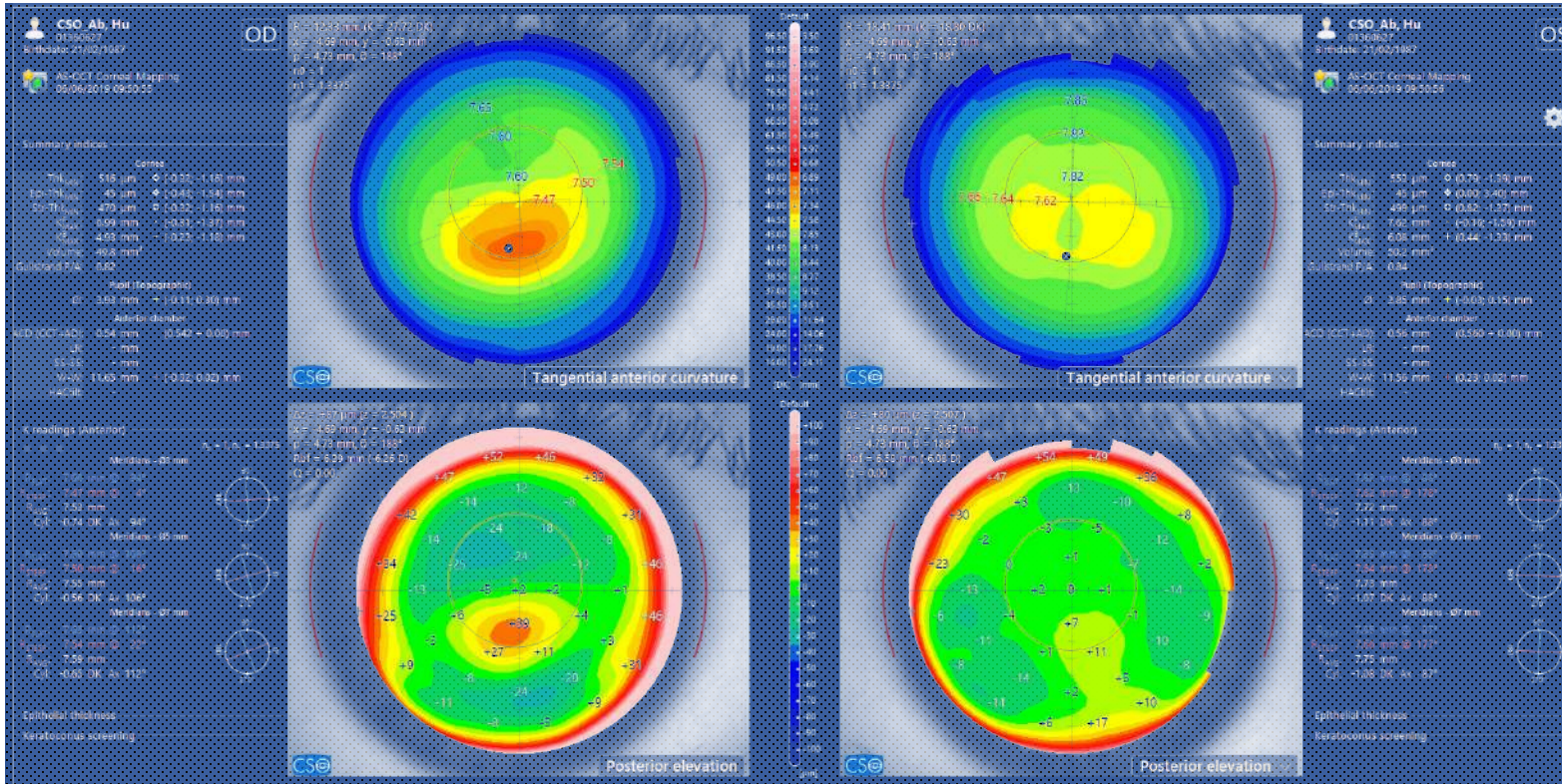
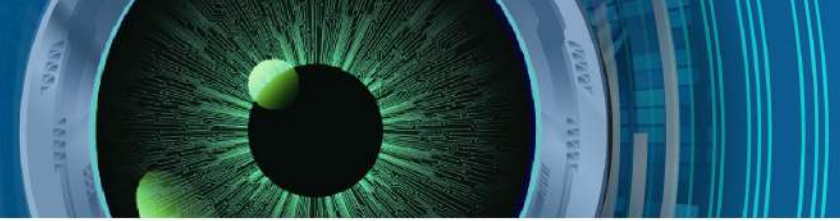


4200 OCCHI
DI **3785** PAZIENTI

1,992 NORMALI,
1,793 KC
415 VAE-NT

KERATOCONUS ARTIFICIAL INTELLIGENCE (KAI)

Courtesy by R. Vinciguerra F. Versaci

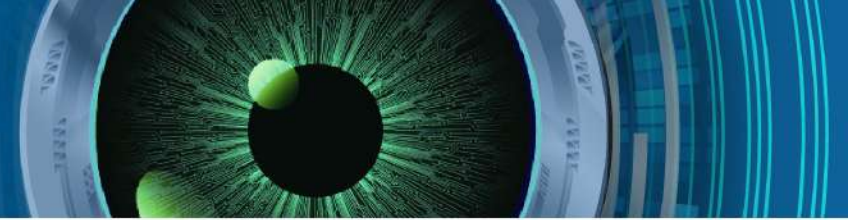


DEFINIZIONE IBRIDA, BASATA SU DUE CRITERI COMPLEMENTARI (UNO SOGGETTIVO E UNO OGGETTIVO).

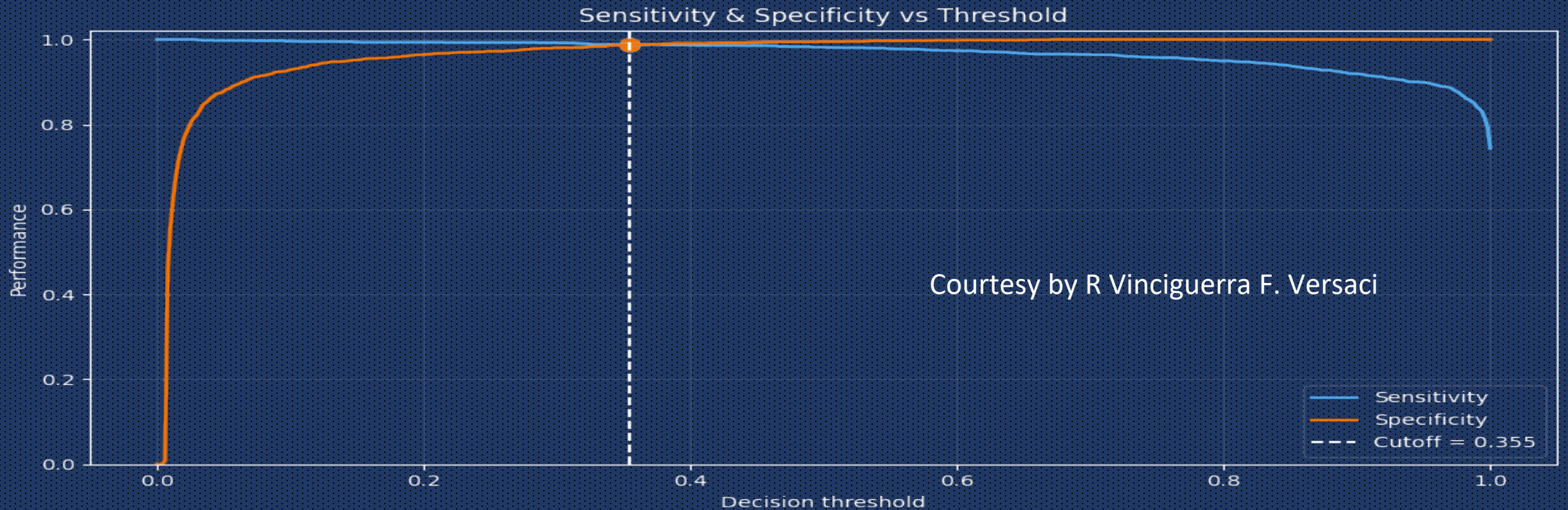
- × CRITERIO SOGGETTIVO: OCCHIO CONTROLATERALE DI UNA ECTASIA CLINICAMENTE MANIFESTA CON MAPPE CORNEALI ANTERIORI (NON TOMOGRAFIA) CLASSIFICATE COME NORMALI
- × CRITERIO OGGETTIVO: INDICE KISA < 60.

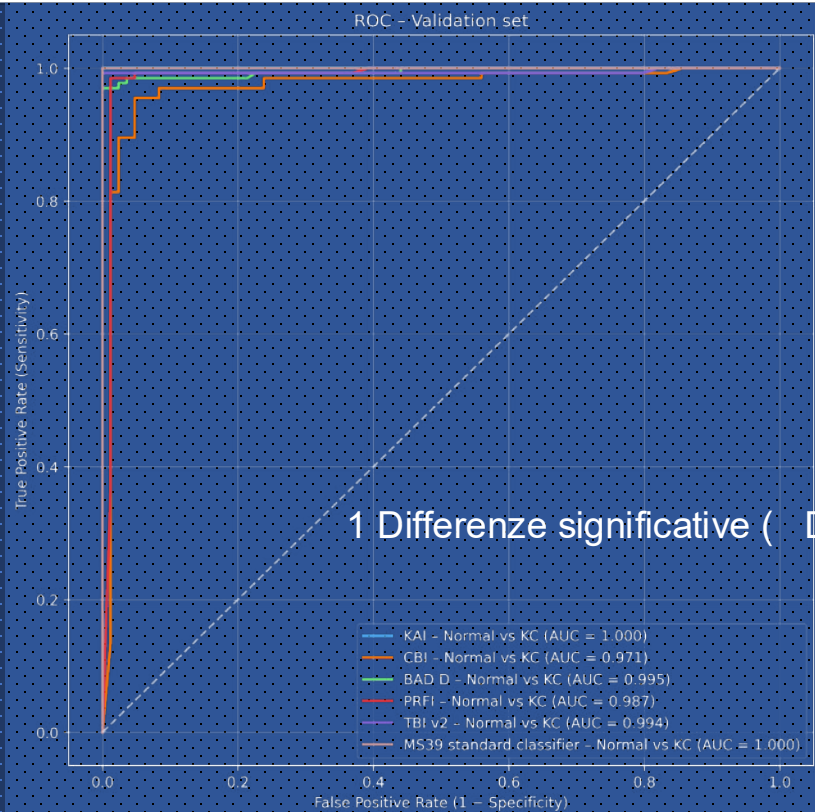
VERY ASYMMETRIC ECTASIA WITH NORMAL TOPOGRAPHY (VAE-NT)

Courtesy by R. Vinciguerra F. Versaci

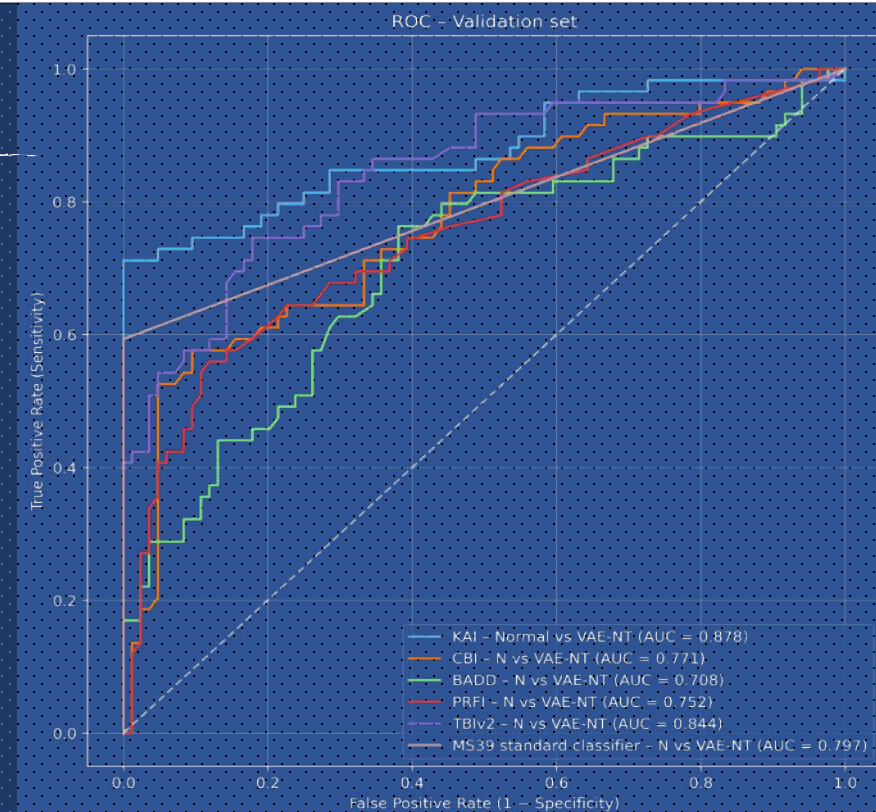


CUT-OFF





KAI	1.000	0.878
CBI	0.971 ¹	0.771 ¹
BAD- D	0.995	0.708 ¹
PRFI	0.987	0.752 ¹
TBI v2	0.994	0.844
MS39 legacy	1.000	0.794 ¹



- KAI - Normal vs KC (AUC = 1.000)
- CBI - Normal vs KC (AUC = 0.971)
- BAD D - Normal vs KC (AUC = 0.995)
- PRFI - Normal vs KC (AUC = 0.987)
- TBI v2 - Normal vs KC (AUC = 0.994)
- MS39 standard classifier - Normal vs KC (AUC = 1.000)

Courtesy by R. Vinciguerra F. Versaci

- KAI - Normal vs VAE-NT (AUC = 0.878)
- CBI - N vs VAE-NT (AUC = 0.771)
- BADD - N vs VAE-NT (AUC = 0.708)
- PRFI - N vs VAE-NT (AUC = 0.752)
- TBIv2 - N vs VAE-NT (AUC = 0.844)
- MS39 standard classifier - N vs VAE-NT (AUC = 0.797)





La tomografia ci mostra ciò che la cornea è.

La chirurgia refrattiva ci impone di
prevedere ciò che la cornea diventerà



La Chirurgia Refrattiva 4.0

5ª EDIZIONE

Organizzatore
e Responsabile Scientifico

Luigi Conti



CCRI

club dei chirurghi
refrattivi italiani

save the date

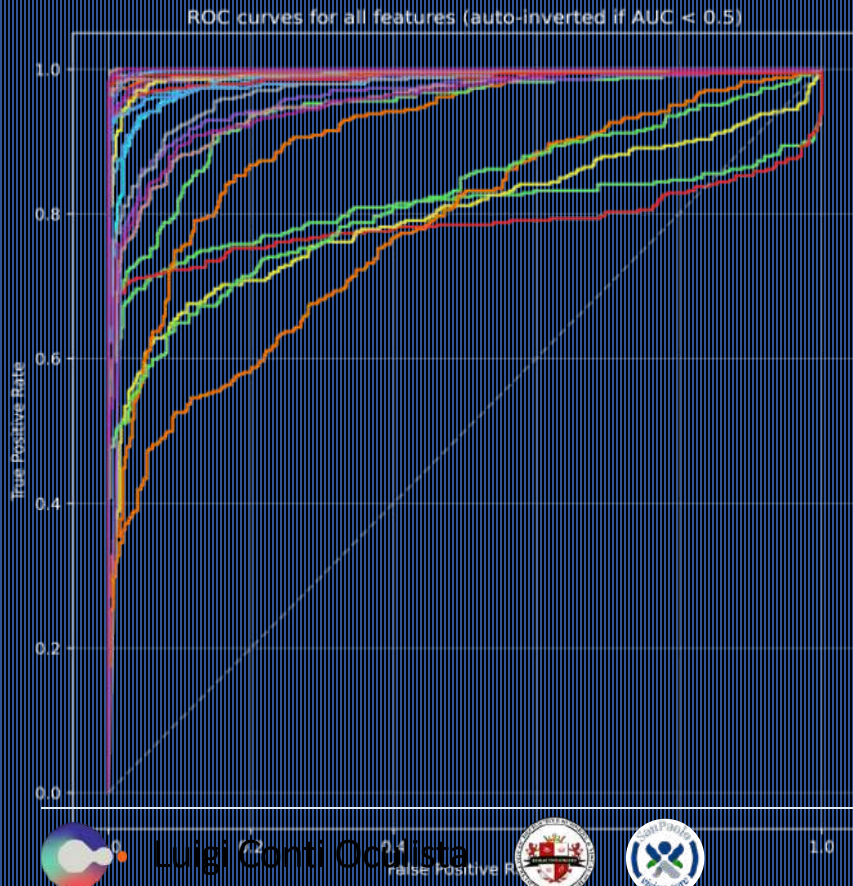
23-24 APRILE 2027



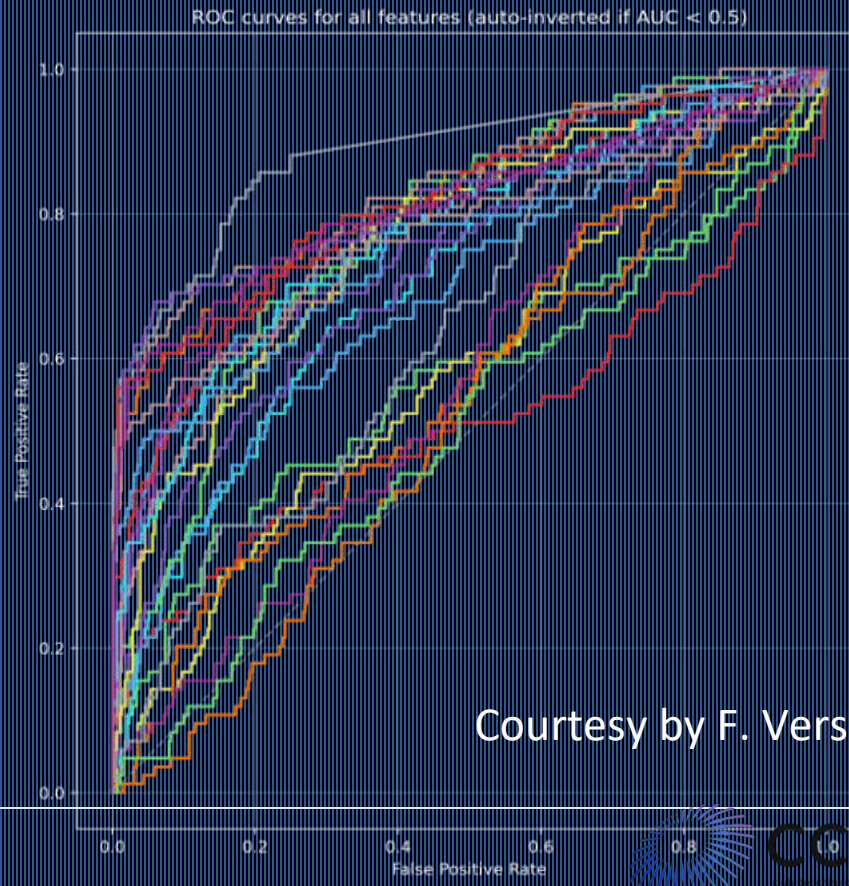
Sorrento (NA)
Hilton Sorrento Palace

GRAZIE PER L'ATTENZIONE

FEATURE SELECTION



- Sf (AUC=0.987)
- Sib (AUC=0.991)
- CSf (AUC=0.808)
- CSib (AUC=0.787)
- EI2f (AUC=0.991)
- EI2b (AUC=1.000)
- EIf (AUC=0.993)
- EIb (AUC=0.998)
- Zf12 (AUC=0.797)
- RMSf (AUC=0.985)
- RMSb (AUC=0.988)
- fbLikeness (inv) (AUC=0.912)
- PDThkSI (AUC=0.943)
- PEpTI (AUC=0.987)
- PTI (AUC=0.955)
- ThkMin (inv) (AUC=0.955)
- RMaxF (inv) (AUC=0.954)
- RMaxB (inv) (AUC=0.972)
- DZMaxF (AUC=0.992)
- DZMaxB (AUC=0.999)
- NotablePtsR (inv) (AUC=0.992)
- RAvgF (inv) (AUC=0.776)
- RAvgB (inv) (AUC=0.821)
- Sib/NPS (AUC=0.993)
- EIb2/RMSb (AUC=0.998)
- log10(EI2f/NPS) (AUC=0.995)
- log10(EI2b/NPS) (AUC=1.000)

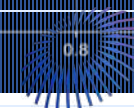


- EIb (AUC=0.886)
- Sib (AUC=0.830)
- Sib/NPS (AUC=0.828)
- EI2b (AUC=0.820)
- EIb2/RMSb (AUC=0.820)
- log10(EI2b/NPS) (AUC=0.814)
- PEpTI (AUC=0.795)
- Sf (AUC=0.795)
- ThkMin (inv) (AUC=0.795)
- EIf (AUC=0.794)
- PDThkSI (AUC=0.780)
- DZMaxB (AUC=0.774)
- log10(EI2f/NPS) (AUC=0.775)
- NotablePtsR (inv) (AUC=0.762)
- DZMaxF (AUC=0.762)
- EI2f (AUC=0.753)
- PTI (AUC=0.726)
- RMSf (AUC=0.715)
- RMSb (AUC=0.683)
- RMaxB (inv) (AUC=0.633)
- RMaxF (inv) (AUC=0.568)
- CSf (AUC=0.575)
- Zf12 (AUC=0.577)
- fbLikeness (inv) (AUC=0.564)
- RAvgF (AUC=0.521)
- CSib (AUC=0.518)
- RAvgB (AUC=0.506)

Courtesy by F. Versaci



Luigi Conti Oculista

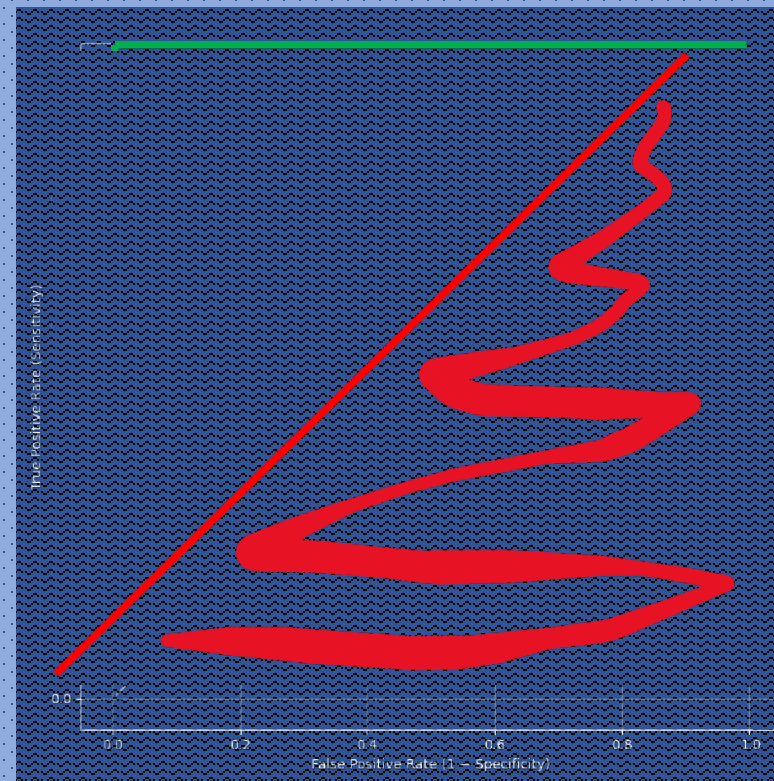


CCRI

refrattivi italiani



—	Elb (AUC=0.886)
—	Slb (AUC=0.830)
—	Sib/NPS (AUC=0.828)
—	El2b (AUC=0.820)
—	Elb2/RMSb (AUC=0.820)
—	log10(El2b/NPS) (AUC=0.814)
—	PEpiTI (AUC=0.795)
—	SIf (AUC=0.795)
—	ThkMin (inv) (AUC=0.795)
—	Elf (AUC=0.794)
—	PDThkSI (AUC=0.780)
—	log10(El2f/NPS) (AUC=0.775)
—	DZMaxB (AUC=0.774)
—	NotablePtsR (inv) (AUC=0.762)
—	DZMaxF (AUC=0.762)
—	El2f (AUC=0.753)
—	PTI (AUC=0.726)
—	RMSf (AUC=0.715)
—	RMSb (AUC=0.683)
—	RMaxB (inv) (AUC=0.633)
—	RMaxF (inv) (AUC=0.568)
—	CSIf (AUC=0.575)
—	Zf12 (AUC=0.577)
—	fbLikeness (inv) (AUC=0.564)
—	RAvgF (AUC=0.521)
—	CSIf (AUC=0.521)
—	RAvgF (AUC=0.521)



AUC = 1.0: Discriminazione perfetta
 AUC ∈ [0.9 - 0.99]: Discriminazione straordinaria
 AUC ∈ [0.8 - 0.89]: Discriminazione eccellente
 AUC ∈ [0.7 - 0.79]: Discriminazione accettabile
 AUC = 0.5: Nessuna discriminazione

