Please find below different links on videos related to the topics (or related topics) addressed in the course of master 1 EMIMEO on "fundamentals on coherent optics – propagation in optical fibers"

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Videos on the fabrication of preforms and the drawing of optical fibers :

Modified Chemical Vapor Deposition (MCVD) technique for making a preform, and drawing process (4'46") : https://www.youtube.com/watch?v=6CqT4DuAVxs

Advertising video by Thorlabs (5'25") : : https://www.youtube.com/watch?v=crZjy9nGj-k

Advertising video by OFS (9'23") : https://www.youtube.com/watch?v=liKOYbgIC_c

Advertising video by Prysmian Group (2'35) : **https://www.youtube.com/watch?v=ZWPLa_4G0l4**

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Transverse modes (true TE TM EH and HE modes and LP modes) in cylindrical optical fibers

Theoretical course on the structure of transverse modes (24'21") : **https://www.youtube.com/watch?v=T55ZTdzY13s**

Another theoretical course on the structure of transverse modes (27'17") : https://www.youtube.com/watch?v=RNNjj87VR1I

… and another detailed theoretical course on the structure of transverse modes :

Part 1 (27' 57") : https://www.youtube.com/watch?v=4S5aP-LD1jg

Part 2 (29'04") : https://www.youtube.com/watch?v=7hHNOqTxhqs

Video showing selective excitation of pure transverse modes in a 6-mode fiber (in "scientibus", in french) (5’ 32”)

http://www.unilim.fr/scientibus/36manips/fiche.php?num_manip=51&video=oui

video showing the changes of the energy distribution in the speckle of a multimode fiber when wrapping (or not) the fiber, in order to get (or not) steady state (8'28") (not so convincing…) : https://www.youtube.com/watch?v=gBbiFPaPsRk

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Videos on dispersion in optical fibers :

- **Intermodal dispersion**

Course on mode dispersion in a multimode fiber (13'21") :
https://www.youtube.com/watch?v=QUHYZUS1wic

- **Chromatic dispersion**

Theoretical course on chromatic dispersion in optical fibers :

Part 1 (28'16") : https://www.youtube.com/watch?v=i0-KhyVTrq0

Part 2 (31'13") : https://www.youtube.com/watch?v=Etm_PeoTDN8

Video by fiber4sale on what is chromatic dispersion in optical fibers (basic, but acceptable) (4'37") :
https://www.youtube.com/watch?v=PWaNMjimtP0

Video by EXFO illustrating the effects of the chromatic dispersion on signal transmission (1'51"):
https://www.youtube.com/watch?v=SAEQND4NyoM

Video by EXFO on zero dispersion wavelength and dispersion shifted fibers (1'54") :
https://www.youtube.com/watch?v=kLDQLkiPfZQ

Video by fiber4sale on dispersion shifted fibers (5'15") :
https://www.youtube.com/watch?v=dtVQSzh3GYY

- **Polarization mode dispersion (PMD)**

Video by fiber4sale on polarization mode dispersion (PMD) (very basic, but acceptable) (4'41"):
https://www.youtube.com/watch?v=J4-wCa_VNfA

Video by EXFO illustrating the effects of PMD on signal transmission (3'11") :
https://www.youtube.com/watch?v=DKCHYUxXYXo

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Videos on non conventional optical fibers :

* Vidéo by "Fiber Optics for Sale Co", on polarization maintaining fibers (3'57") :

https://www.youtube.com/watch?v=7rrb-_Iin-g

Vidéo by "Fiber Optics for Sale Co", on double clad fibers (3'46') :

https://www.youtube.com/watch?v=Z4f188ITlPk

video of a conference by Dr. Ph. Russel on microstructured optical fibers (and specially on hollow core fiber): « guiding light in new ways » (58' 34") :

https://www.youtube.com/watch?v=5je47GPW_Mc

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Lectures dealing with biophotonics, including a series of lectures on fiber based advanced endoscopic systems, the two first ones being devoted to bases on propagation in optical fibers and dispersion:

link on several series of lectures dealing with biophotonics : http://tomi.nuigalway.ie/tomi-physics/bigss/lectures/

Among these lectures, you can find 6 lectures by Caroline Boudoux (Polytechnique Montreal, Canada) on fibers used in advanced endoscopic systems :

https://nuigalwayie-my.sharepoint.com/personal/a_croke3_nuigalway_ie/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fa%5Fcroke3%5Fnuigalway%5Fie%2FDocuments%2FDocuments%2FBIGSS%2FCaroline%20Boudoux%20Lectures&originalPath=aHR0cHM6Ly9udWlnYWx3YXlpZS1teS5zaGFyZXBvaW50LmNvbS86ZjovZy9wZXJzb25hbC9hX2Nyb2tlM19udWlnYWx3YXlfaWUvRWpoUTlBNmJqQzlEZ1IxOUM5Zkc3WVFCcW5EMmpmVzdaZ0F0aDBxVlFCRVdjUT9ydGltZT01aUdYWUExZjJFZw

The lecture 1 is on basis on optical fibers (duration 30'):

https://www.youtube.com/watch?v=JuWRp0ol2ek&feature=youtu.be

The first part of lecture 2 (until time 7'30") is on dispersion in optical fibers (modal dispersion, chromatic dispersion and polarization mode dispersion) :

https://www.youtube.com/watch?v=XhsnHhb_Kls&feature=youtu.be

The other lectures are also interesting, even if they are out of the topic of our course on "fundamental of guided optics in optical fibers"